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TO THE

RIGHT HON. WILLIAM EWART GLADSTONE,

BY HIS OBEDIENT SERVANT,

THE AUTHOR.

OUR DIFFICULTIES

AND WANTS

IN THE PATH OF THE PROGRESS OF

INDIA.

BY

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OF LUCKNOW.

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Preface.

The writer of these pages is well aware of his inability to express his thoughts in a language which is not only foreign to him, but in which he has never received a sound and good education. But as the subject treated in this work is too dry for the taste of the majority of his countrymen at home who cannot read English, and have not yet learnt to take a hearty interest in such questions, and those few who can read English and take an interest in political and economical discussions, necessarily consider anything of the kind written in any of the Indian tongues not worth looking at; consequently the writer determined to bring his thoughts before the public, first in the English language, and afterwards to translate them into his own vernacular. Moreover he found that many philanthropists in England are much more anxious to find some remedy for our complaints than our own people; and anything written in a language strange to them would of course have failed to throw the light of facts upon their views, and therefore would certainly have been less beneficial for the purpose aimed at. For this reason also writing these chapters in English has been considered a matter of the first importance.

Although every possible care and great pains have been taken to make the contents intelligible, yet the author fears that, owing to his inefficiency in the language, it is possible that the readers may in many places get puzzled in picking up his meaning, and for this he begs to be excused.

Further, owing to want of time, the writer is sorry to say that he could not finish the whole matter which he intended to write in this book. He has been obliged to leave the miscellaneous points which have been mentioned in the Introduction untouched. These points are—

1.—Local Self-Government.
2.—Appointment of Natives to high Offices.
3.—Migration and Emigration of the People.

This would have added two more chapters at least. If opportunity will permit, he might bring out the remaining matter in a second part at some future time.

At present the author concludes his preface with the sincere wish that his humble work may be of some use and service to his country.

S. M. H.

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INTRODUCTION.

1.—Name of the Book; the cause of writing this Introduction. 2.—Lucknow, my native town—the features of Nawabi (Nababi) Government—the changes. 3.—My chances of studying rural life and works. 4.—The people sighing for the Nawabi time—their superstitious notions—the life they led in that time. 5.—The reasons of their misery and sighing for their past time—of their superstitious belief. 6.—The peasants enjoy very few or no blessings from British rule and free trade. 7.—How they lead their life now (vide the Appendix). 8.—Why Oudh is selected for illustration in this book. 9.—The question of the Indian peasantry remains in constant discussion and under the view of the British Government—what methods are recommended and tried for stimulating the material prosperity of the country—they do not prove successful, and why? 10.—The reason of my visiting England and studying Agriculture —other pursuits for studying the question of "wages and labour"—the conclusion, i.e. *writing the following chapters as the result of the observations.*

1. Our Difficulties and Wants." The name which I have chosen for this little work, I believe, gives a hint of its contents; but it requires some explanation as to what circumstances made me acquainted with our difficulties and wants, how I gathered the ideas about the subject, and what facts and reasons led me to bring these pages before the public. I am afraid I should be condemned for blowing my own trumpet if I tried to give a detail of all the chances and opportunities of which I have availed myself in collecting these ideas; and to add an account of my long perseverance and labour in studying the subject. However, to assure my readers that the remarks which I am going to give in the following pages are not based simply upon guess work, or merely extracted from the discussions spread so widely all over the world every day by our papers, but are founded on facts gathered by my own long observation and personal knowledge, I feel myself in duty bound to mention briefly, first of all, how I became acquainted with our difficulties and wants.

2. I was born in Lucknow, the capital of the province of Oudh, the first city in population, and considered at that time the Paris of Upper India. I recollect the history of a few years of the last period of Nawabi Government, and the lapse of time has not effaced from my memory as yet the magnificent State edifices with golden domes and glittering towers, the apartments, gardens, and parks, the innumerable

lofty and glorious palaces of the nobles, and, by the side of these, the filthy streets and lanes in which the poor people were crowded. I still remember, as were it only yesterday, that men from the very lowest condition were sometimes raised in a few hours to the very highest stage of prosperity, and that others were suddenly hurled from the very height of honor and wealth down to the lowest depths of misery and distress. I remember that more than twice or thrice in my boyhood our doors were locked, and we were prevented from going out, through the fear of disturbances and agitation that were going on in the street. The words "Government Sepoy is coming," were used, like the name of Malbrook in France, to frighten naughty children; and a Sepoy's visit on a petty matter of police was sure to disturb a whole family. I have seen the streets in every part of the city so crowded with the conveyances, horses, elephants palanqueens, and followers of the wealthy private and court people, that it was not easy for the foot passengers to cross them; and if a poor man attempted to check the speed of the conveyances by crossing the road he was pushed and knocked down relentlessly. I remember the value of land in the town was 20 times greater than it is at present; nothing but substantial houses and good buildings and shops were seen in every street. The people of Lucknow were as busy as bees in their various kinds of work, and were noted in their day for their gaiety and luxury. They had invented several kinds of entertainments, crude indeed in form, to amuse themselves by day or night; and such sciences, arts, and literature as were appreciated at that time were considered to be in perfection. Although men say that there was no peace, no security of honor or property, no sanitary arrangements, no law or order, and that might was then right, yet the name of hunger was totally unknown among that population, which many estimated to be about 400,000. Some professional beggars, might indeed be heard crying at the doors, but this begging was considered by them as their hereditary vocation. They were much better in their circumstances than many of the working classes, and they were not so numerous as those who now-a-days, in every street, disturb the rest of the people till midnight.

In 1856 the great change occurred in the affairs of the country; in other words, it was annexed to the British Empire, and placed under a chief Commissioner. Authority was transferred from the swords of the selfish nobles and self-opinionated land owners to the pens of the statesmen. The people gained peace and freedom, but lost their various occupations. Soon after, in 1857, the great calamity of the mutiny upset the whole country, and inflicted more ruin on the city in 18 months than it would have suffered in 80 ordinary years. In 1877 the Local Government of the Province was amalgamated with that of the North Western Provinces, which caused another change in the administration; and the business of the townspeople sank again a degree lower than it had been hitherto.

3. In 1864, I, having obtained employment in the Educational Department, left the city, and found the opportunity of studying the subject of rural life. My being transferred to several districts and places in the country, and my being appointed in 1866 Inspector and Travelling

Officer in this service, allowed me good chances to make myself acquainted with the inner life of the rural population, which, according to the Census of 1881, stands as high as 93·1 * per cent. of the total population of the country, of these no less than 72.6 per cent. have no other occupation, but depend for their livelihood on some sort of work connected with tilling the land. And according to the Famine Commission Report, the number of the people closely connected with agriculture seems still higher, viz. † 90 per cent. of the rural population. This percentage (90) is quite approximate, because if to the former figure, (72), the number of the unproductive population, *i.e.* of those who do not work, and depend upon the labours of the others, be added, the total number becomes 90 per cent. or a little more. The nature of my work, as I had to travel in all seasons over every part of the country, and had to mix in a friendly way with the people, and to spend my leisure hours in talking with them in their huts and dwellings, gave me ample chance to become more familiar with them, and better acquainted with their inmost feelings and domestic life, than most of the revenue and judicial Officers, whose very rare visits rather alarm than conciliate the poor people. I have served in this capacity as long as 18 years, observing their conditions, and the changes in the circumstances of their life. The more knowledge of the subject I gained, the more inclined I felt to take interest in the matter; and as I became more familiar with them, the more my heart sympathized with them.

4. When, in 1864, I first left Lucknow (my native town), I heard the people of all classes and grades deeply sighing for their lost Nawabi time, in which, they said food was abundant for them, seasons favourable, and their fields yielded twice as much as they do now, and they believed that they had recently lost all these blessings. As they are naturally superstitious, and quite illiterate and ignorant of worldly affairs, and are destitute of the most precious gifts of nature, the reasoning faculties, they are therefore in the habit of attributing all the good and bad with which they meet in the course of their life, and for which they see no other origin, to some extraordinary change in the world; therefore this great change of the Government was quite enough to make them believe that the loss of the productive power of their land in spite of their working hard, the bad agricultural seasons, the rise in the price of food, the decrease in the quantity of cattle, milk, and butter, and the calamity of famine, are due to nothing else but to their bad luck, which has been brought about by the English Government. Hearing this universal cry, and having no experience or knowledge of the nature of the New Government at first, I myself felt inclined to think that really they had lost something very precious. But I soon became acquainted with the features of it, and was astonished at the folly of the people in admiring and sighing for such a thing as the Nawabi time. There are so many private and official records written on the subject, and the facts are so fully described in them, that I need not here give a full description of that time, which

* Page 89, paragraph 131 C.R.N.W.P. and Oudh : Form xx., col. 20.

† Page 89, paragraph 8, R.I.F.C. Part II.

I have only heard of and not seen. However I ascertained that the people in the country were then twenty times worse off than the inhabitants of the town. The Administration Staff was only to a small extent the source of their disturbances; it was the private struggles and blood-shed by the large land owners, and their rebellion against the Government which chiefly caused their troubles. In these struggles, which were very numerous, they had to desert their huts, property and fields. The estate of one land owner was attacked by another, and the intruders used to do all kinds of mischief, plundering everything they could lay their hands upon: villages and fields were set on fire: and those poor human victims who fell into their hands were tortured to yield money and show their hidden property. For months, (till the matter was settled) the people were obliged to go and hide themselves with their families in the jungle, and to live day and night under trees; and they in their turn were obliged to do the same sort of mischief in neighbouring villages, for their own maintenance. The tenants were made to pay by their landlords long before the rent was due; and if the latter rebelled and their estates were taken by any of the Government alliances, or other ursurper, the poor tenants were compelled to pay the rent again. All sorts of shameful means of torture were used by the Government Authorities to exact the revenue from the land owners. Owing to the above reasons, agriculture was full of difficulties, and was considered degrading; and, as there were many other sources of livelihood, even the large land owners rather liked to keep themselves aloof from agriculture. In such cases certainly there could be no reason for inducement for other people to become tenants, consequently, the land was not of so much value as it is in these days. Nor were the landlords so scrupulous in the measurement of the area of fields, and the terms of their lease as they are at present. The land was let at very low rents, and on easy terms; and not only were the poor petty tenants tortured in order to exact the rent, but the same influence was applied to make them take the leases. Further, whenever it happened that the Government Civil Officers or the Army passed through any part of the country, everything belonging to the people living in that part was considered at their disposal; the fields were cut for feeding their horses, elephants, and oxen, the poor people had to carry on their heads their thatchings and their beds, for the shelter and comfort of the sepoys in the camp. If dry wood for fuel could not be got from their trees, the shutters, beams, and rafters of their huts were chopped up for the purpose. No wages of any kind were paid for any sort of work. Milk, butter, oil, rations of all sorts required for their use, were taken wherever they could be found, or they were supplied by the landlord of the place. If it were the estate of some rebellious landlord, the plunder was much greater, and was in fact quite unrestricted. The damages, called Pamali, of course, were afterward deducted from the revenue budget of the place, and varied according to the influence or the power of the landlord. Sometimes the deduction was only nominal, as one quarter of the actual damages; and sometimes three or four times the real amount was allowed! The tenants were relieved in their rent payment by the landlord, on the same principle.

N.B.—Like many other original barbarous customs that still exist in the country, a relic of it still remains : the supply of fuel, grass &c., for the camp of Government Officers prevails to certain extent to this day, and in spite of the exertion of the English Government, it has not yet been uprooted. We are afraid that this and other similar disagreeable customs, such as slavery of the agricultural labourers for debt in some parts of the country (Gonda and Pahraich) will remain in existence until India prospers so much, that shops to supply all necessaries will be found in every part of the country, and until the development of labour enables the poor slaves of hunger to escape from their present painful conditions of life. As long as the time and labour of the people are not more valuable than at present they feel little objection to giving them for nothing ; and all the exertions of the Government will fail to check these evils.

5. Having become conversant with the nature of the Government, an example of which has been given in the foregoing paragraph, I was really unable to understand what were the advantages of the old time, which make the people so unanimously sigh for it. But at last, after long observation, and full and continuous attention to the circumstances of the people, I found out the secret, that the people in question have gained nothing by the change of the Government, or by free trade ; rather they are gradually losing privileges which they formerly possessed. Moreover, the sources of the one thing for which they care, *i.e.* sufficiency of food, which undoubtedly heretofore had been numerous, have greatly decreased for them. For instance, at first they had entire command and control over agriculture, they had besides many other means within their reach of obtaining a livelihood, consequently, instead of undergoing rack renting owing to the greater demand and hard competition, as is the case at present, they were inclined to avoid field work, because, owing to several reasons which have been, and will be mentioned, the occupation was not at all agreeable, therefore they had to be tortured to do it. The rent was not so high as now. In most parts of the country it was paid in kind, half the harvest being the general rate. Accordingly the tenants had an interest in feeding themselves and their cattle wastefully out of the standing crops. The land owners did not keep a very keen eye over them, therefore, at harvest, instead of one half, they used to receive scarcely more than one quarter of the real produce of the fields from their tenants. The land not being under so many courses of rotation as it is at present, indeed, being rarely cultivated for two or three years consecutively, had much more productive power. There being no regular survey of the fields in each village, a smaller area being under cultivation, and the landlords being in every way more careless than to-day, it was usually the custom for a tenant, having a lease for an acre, to reclaim and add to his own as much land as he could find uncultivated on the borders of his fields. The jungles containing fruit trees, mango, mahwa, fig, and tamarind, and bushes of edible wild berries were numerous (though there are hardly any now) ; and large orchards of mango and mahwa belonging to the country people or to rich towns-folk, who only had their property in the country, but very seldom lived there, were far more in number and area than they are now, and the fruits of them were free to all the people. This was a considerable source of food

for them during many months of the year. Above all, large commons of grazing lands, the vast numbers of fallow or uncultivated fields, and the local jungles gave them ample room and chance to keep and rear milch-kine and goats, which gave them very delicious and most wholesome and strengthening food. There was hardly any cultivator who had not this means of nourishment for his family, and this was a positive luxury for them. The fodder being abundant, milk was produced in great quantity. There being a larger number of cattle, a much larger quantity of dung was produced, which was used as manure in a comparatively small area. The jungles and trees being numerous, there was no scarcity of fuel, (as is the case now), and therefore much less dung being required for fuel, a far larger quantity of it was left for manure. All having well fed and strong cattle, and less area to cultivate, were able to prepare their fields thoroughly.

All these natural and accidental circumstances combined were the causes which made their fields produce (when they were allowed to produce at all) twice as much as they do now.

But by the change of Government, a great revolution occurred in the mode of their life and business. The people of all castes and grades being thrown out of employment, many of the land proprietors returned to their native lands, and after remaining idle as long as their means allowed, they, sooner or later, fell into the agricultural occupation for their subsistance. The value of land, and the number and competition of the tenants increased more and more. Good legislation and order, which were quite new things for the country, and, in addition, the scarcity of other employments, stimulated the competition for farms very rapidly. All the jungles were cut, every inch of possibly productive land was reclaimed, and the landlords gradually found the necessity of clearing their orchards and gardens, and turning the plots as well as the commons and permanent pastures into cultivated fields. Now that the assessment was made by the Government, every field was accurately measured, and no more chance of irregularity or of unfairness in letting or holding remained for landlord or tenant. Under these circumstances the old tenants first lost the monoply of the cultivation of the land. Secondly, nearly all (or, at least, three quarters) of those tenants who used to pay a portion of the produce of their fields as rent are obliged now to pay a fixed rent in cash; and this change checked their wasteful feeding of their cattle on the green standing crops. Moreover, this change to a fixed rent, in many cases, absorbs a great portion of what, under the old system, would have been their own share. Thirdly, the rent began to increase in proportion to the competition; and besides this these poor people have to contribute, either directly or indirectly, all the new rates and taxes which their landlords are made to pay. Fourthly, the supply of food for the cattle diminishing, they gradually died, and at present, owing to the scarcity of food, cattle do not thrive at all. They are neither strong enough for hard work nor for dairy purposes, as they now give little milk and dry soon. Fifthly, what they used formerly to call a farm of 1 acre was really 1½ or 1¾ acre; now it has been reduced to 1 acre. That farm used to be cultivated not oftener than every other year; now in

many cases attempts are made to take two crops out of it in one year. That farm now receives barely a quarter of the manure which it used to get. The water which that farm used to receive in irrigation is now shared by at least two farms, so that there is no wonder if the out-turn from it is reduced now from 32 bushels to 16 bushels.

The newly-created tenants have met the same fate as the old. They don't know what the circumstances of the old tenants were; but they find themselves to-day in worse conditions than when they commenced farming, and see that their present occupation, instead of prospering, is sinking. As, for instance, when a man took the tenancy some years ago, he had three cows; now he has none: all have died. A few years ago the cows used to give 8 lbs. of milk per head, and now they give only 1 lb; he notices the same change in the out-put of his fields. Under the above circumstances both the old and the new agricultural classes, not having a correct idea of the causes of their depression owing to their superstitious habits, attribute all this to their bad luck, which they believe has been brought about by the English Government, and they have all joined in the chorus of sighing after the past time.

6. Really, the changes and improvements made by the present Government have, as yet, done no good for them, and as long as the people remain the slaves of misery they will not appreciate these improvements. There are post offices, but as a rule the poor have nothing to communicate. There are schools, but they cannot afford to educate their children. There are roads, but they have little or no traffic. There is law, but it has been of very little benefit to them. For instance, in Nawabi time they were compelled by torture to cultivate the land and remain on it; now the want of food compels them to hold the land under rack-rent, and they cannot leave it. At that time their huts were plundered by the usurpers or by their own landlords, or they were ousted from their holdings at an hour's notice, and then allowed to go to curse their fates. Now the landlords bring an action against them at a distance of a score of miles from their homes. The poor men are obliged to leave their work, attend the court as many times as the dates of hearing are fixed, and are fleeced by petition writers, revenue agents, &c., &c., and if a decree is made against them their house is legally plundered—the stored provisions, the cooking utensils, the shutters of the doors, the mill stone, &c., are brought to the court and sold; and beside the landlord's actual dues, they have to pay the cost of the suit into the bargain; while, if the decree is made in their favour they suffer by losing their time, by being away from their work, and by the expense to which they are put. And, after all this, they are again obliged to return home to resume their operations, to till the land again, and to acquire the favour of the landlord at any price.

Formerly, through the fear of torture, and now through fear of law suits, the poor people cannot enjoy the blessings of real freedom; and they are still obliged to do what the landlords wish in order to keep their only means of living.

In those days very little or none of the produce of the country went out of its boundaries. If one village lost anything by being plundered another gained it. Scarcity of food had not then a tendency to flow at

the same level all over the country, and for a long time. The demand for agricultural labour was greater than the supply; hence it is evident that labour would be more valuable. At any rate the landowners were obliged to keep their tenants (who are really labourers) alive and fit for work. Just like beasts of burden, the labourers were beaten in the day time, but well cared for and fed at night. When, in time of tumult, they had to fly with their landlords, the latter were obliged to support them by all possible means they could, and to give them every help for settling down when they returned to their ruined and deserted homes. Formerly they were like beasts—were yoked, and whipped to work, but their well-being entirely depended on the care of others who were naturally bound to keep them in good condition and well fed. Now they are made men, and are freed to some extent from the old conditions to which they had been subject, but they now have the care and anxiety of maintaining their own existence.

Let us now consider for a moment, how far the peace and free trade, which are the gifts of the present Government, have affected the conditions of the class in question. Here we do not touch the question of the Government share from the produce of their labour, the "revenue," which in former time used to circulate entirely within the boundaries of the country, and was in fair or unfair proportion divided among all classes of the population; but we simply take into consideration the share (of the produce of their labour) which was reserved for them and the owners of the land. It seems however quite plain to understand, and needs no logic to prove, that their condition must have been better than it is at present, if we simply take this point of economy in view, that as there were no channels for the produce of the country to go out, the raw materials, or in other words, the produce of the land, which comprises the first necessaries of life, must have been abundant, and therefore must have been distributed among the people with less regard to economy or frugality. Now peace and freedom, the construction of good roads, and the introduction of railways, have made great changes in the economical theories of the past. We have lost the benefits derived from the share of the old Government (the revenue) which was spent entirely in the country; but on the other hand, we have gained free trade. And let us assume for a moment here, that the gain is equivalent to the loss. Still, as we have nothing to give in exchange but the raw materials, or first necessaries of life, therefore now the produce of the land is certainly more scantily distributed among the people, in order to export the surplus to other regions. By this change of the economical system, it may be considered that the individual prosperity of a few money and grain lenders, and the land owners, who have something to do with the trade, has been stimulated; it may be admitted that by the change they have not been losers. But neglecting these few, who are only 6.1* per cent. of the population, the other 93.9 per

* Census report of N.W.P. and Oudh, 1881.
Total of agricultural populaton, Page 104, Form XII.—15,030,883.
Page 121, Section XIX, Paragraph 159—Landowners engaged in other pursuits 854,167
" " Tenants— { Money lenders, 30802 / Grain dealers, 62737 } 947,706=6.3 per cent. on 15,030,883.

cent. as a matter of fact, in respect of the necessaries of life are worse off than before, and on the other hand, derive no benefit whatever from trade. Because, whereas formerly the product of the land was abundant, and had no way to go out of the country, it is evident that they received a greater share from it than now, when it is very scanty and is divided amongst the people in the same proportion. Had they some other means of employing their labour, besides producing the thing which they require in order to preserve their life, certainly their condition would have not been what it is, as they would have enjoyed the benefit of the division of labour, free trade, and home industry; but as they have none of these blessings in their mode of life, they resemble greatly the labourers of the old fable of the pearl fishery in Ceylon, who were employed by foreign dealers in pearl, and used to receive for their labour the oysters, upon which they lived. To those labourers, the pearls (so the story goes) which were sold in India for wonderful prices, were no better than pebbles on the sea shore.

7. How deep their misery is, how they lead their life at present, how they are treated by higher people, what works they have to do, and what their wages are; about these points I would not say anything here, as the reader can form a fair idea on these subjects, from the pamphlets which were written by me on former occasions, and will be appended to this work.

8. The case of Oudh, which I have selected to illustrate the subject on account of my personal knowledge aud observations, I believe, is the best example of its kind, because the changes in the country being recent, show the true picture of the facts. For arguments in support of this, we have not to depend upon the pages of a history which records the past, but we can consult eye witnesses. This illustration shows the exact features of the Nawabi Government, an example of every point connected with the subject of Indian politics; and an unbroken series of the changes which a country undergoes, after losing its native Government. Hence it is quite applicable to all other parts of India which resemble Oudh in respect of the density of population and proportion of the urban and agricultural classes. It should therefore be borne in mind, that the observations which we are going to make apply to all such parts of the British Empire, and not only to the small country of Oudh, which has been simply taken for the sake of illustration.

9. We must confess that the question of the Indian peasants is not one that has been dropped unnoticed. Though the sufferers, like dumb animals, have scarcely voice or sense to complain or try to escape, yet the administrators of the country are always busy in thinking about and discussing the subject. Some investigation or enquiry is always going on, and changes are suggested and made in hope of bettering their condition. Besides the Local and Provincial Government's exertions to find out some means of bettering the peasants, every now and then some special agency is appointed to make enquiries and to consider the matter. The following, for example, are of recent date, and have more or less connection with the same subject, viz.: The Com-

missions on the Army, the Famine, Education, Public Works, the Census of 1881. The Bills on the Jhansi and Dacan Riots, Bengal Tenancy, Agricultural Banks, Local Self Government, and others, also affect the condition of the peasant.

The Famine Commission Report, in two parts, is very complete and thorough, and seems the basis of many recent investigations and changes.

The subject is constantly discussed, though not with much force, in some of the native papers that circulate in the country; and a few persons who take an interest in the subject come forward whenever they meet with the chance of advocating the cause of the people. The subject is discussed in England much more than in India; not only is it kept alive in Parliament, in the office of the Secretary of State, and in large associations, but even in the working men's clubs it is a favourite subject, and it brings large audiences whenever it is brought forward.

The modes of elevating the material prosperity of the country, which are unanimously considered most promising are the following:—

1. The help of Government.
2. Modification by legislation.
3. Encouragement of commerce by providing the means of communication, such as roads and railways, and reducing cost of freight.
4. *Most important of all*—Improved methods of Agriculture.
5. Providing and increasing the sources of general and technical education.

Miscellaneous:—

6. Appointment of Indians to high offices and Local Self Government.
7. Migration and Emigration.

N.B.—No doubt these are the *real and only means that*, in favourable circumstances, *make a country prosperous, but the question is how far they have proved successful in the present condition of India, and how far they can be expected to succeed in the future.*

These methods are not only recommended by the politicians and the patriots of the country, but have been approved and considered worthy of attention by the Indian and Home Governments. Constant attempts and investigations have been made to find out the points for the application of the above-named forces in order to raise the public prosperity. Generally speaking the attempts and methods adopted by the Government for bettering the condition of the people never go beyond the limits of the above-mentioned theories, but *when they are brought into practice they prove to be failures.* From this it can be understood that there is something else required to bring these theories into practice. We are in want of a fly wheel to regulate the motion of the machine when put to work, and to prevent the crank from stopping by reaching the dead points. But what the *something else* is, and how it can be provided, as far as we are aware, very little or no attempt has yet been made to discover. Our attempt in this work will be to show what *that thing is*, and what is *the power* that we require at first to put the various parts of the machine for elevating the prosperity of the country into work.

10. Of the universally acknowledged modes of improvement named

above the following three seem, at first sight, the most important and principal factors for producing material prosperity, viz. : Education, Trade, and the Improvement of Agriculture. As I have served for 18 years in the educational department, I know very well that Education (*vide* appendix No. 1) does little in the present state of the country. And the question of Trade can also be dismissed briefly. When we know that there is, generally speaking, no diversity of occupation and no home industry, our trade cannot be of a very prosperous nature ; and as we have nothing to give in exchange but the raw produce of the land, by all attempts and exertions we can neither raise commerce beyond a certain limit, nor increase its profit above a very moderate average. But the third problem, " Improvement in Agriculture," attracted my attention especially, and at first led me to believe that this is undoubtedly the field in which improvements will be successful. But, as I have seen with my own eyes for 18 long years, how laborious, persevering, painstaking, and skilful our men are in this occupation, I know very well that no effort is wanting on their part. I had never the least doubt that practically they knew their business thoroughly well and required no teaching in the subject ; I also had been of the opinion that the majority of them were incapable of making improvements in the work ; but at the same time I believed that the large landowners who do home farming were in a position to adopt the new changes and systems that are at present recommended. However, the articles in the papers, which were issued every day about this new and attractive subject—Improvement in Agriculture ; the circulars and reports of the Government Experimental Farms shook the confidence which I had in the tenants, and made me believe that there are some secrets in tilling the earth, by the ignorance of which the poor people could not derive the full advantages from their labour. What made the belief more firm was reading the descriptions and hearing discussions on English farming. And according to this theory of modern economy, that "*wages are derived from no other sources but the produce of labour*," there was no reason to disbelieve that the produce of the fields in England must be 20 times greater in quantity or value than ours, because the average wage of our agricultural labourers per head is, at most, 1½d. per day, while in England it is, at least, 30d.—2s. 6d.

These thoughts made me very anxious to come to England, and on finding the first opportunity, in 1881, I left India. Here I joined the best institution for imparting the knowledge of agriculture—the Royal Agricultural College at Cirencester. Besides trying to learn the subject systematically, I never dropped from my view the question of—"*produce of land and labour*"—which had brought me here, and I tried, as far I could, to gather knowledge of the subject from every part of the country. Wherever I met with the opportunity I tried to see the farming of the various districts and the nature of the work of the labourers, and of their domestic life Besides what I saw in Cirencester and the neighbourhood during my daily course of work at the College, I availed myself of every chance of seeing the work in the counties of Oxford, Worcester, Gloucester, Hereford, Chester, and other places ; and to study that very point of *produce and labour*, I went to Ireland, which was really

the most suitable place to find the best example for my purpose. I travelled through the very wildest parts of the counties Mayo, Galway, and Sligo; the moderately green counties of Kildare and Dublin, and the best agricultural counties of Limerick and Cork. In every place I visited the houses of the people who work themselves on their own land. Whenever I had the opportunity of making acquaintance with the people of the country who knew or took interest in the subject, such as Government officers, bishops, priests, farmers, or workmen, I always seized the chance of making enquires on the point in view. I also paid flying but careful visits to many counties in Scotland, especially to those places which are noted for agriculture, such as Aberdeen. Dundee, Perth, Inverness, &c.

To study the subject as thoroughly as possible, I paid particular attention to the sea ports, in order to have an idea of the exports and imports of different countries, and especially of my own. I studied very attentively the business going on in the large London, Glasgow, Liverpool, and Belfast (Ireland) Docks, and in many other smaller ports such as Gloucester, Cork, Leith, &c. To know what market value our Indian produce and export have in this country, I went to the London, Liverpool, and Manchester Exchanges. I also carefully noticed the advantages of the division of labour, the sources of producing and distributing wealth, and the causes of the prosperity of the country by going to many other centres of industry and manufacture, such as Manchester, Birmingham, Sheffield, Coventry, Nottingham, Worcester, &c., and to the places in the North of England and in Scotland, where the iron mines and coal pits are worked. In England also I took every opportunity of examining the domestic life of the working classes, and with the aid of courteous officials I visited public institutions for the relief of the poor, and the places where labourers eat, drink, sleep, and enjoy themselves.

Now, after all this careful study of the subject for 20 years, I have come to the conclusion that all the forces above referred to would remain in equilibrium, and would produce no resultant to elevate the material wealth of the country, unless some other forces were applied, and those other forces can be nothing else but *Individual Energy and Native Capital.*

Now, in the following pages we would try to prove that the above recommended remedies have not shown any perceptible improvement as yet, and that there can be no hope that they would ever prove to be successful without bringing our individual energy to bear, and applying the capital of the country to various sorts of productive business.

N.B.—If the reader will look at the preface of "Oudh Gazetteer," he will find some remarks in it corroborating the above ideas. The distress and the indebtedness of the landed classes are attributed to the same reason; that is, they have no other sources of income but the land.

CHAPTER I.

Government Help.

1.—By the light of Political Economy, the necessity of a Government—the tendency of a good Government to look after the comfort of the people governed—lazy people put the blame of their faults on their Government. 2.—In India the Government is substituted for "Kismat." 3.—By the attempts of the Government to do everything for the people, three great evils generated:—(A), *the loss of self reliance;* (B), *the loss of the advantage of division of labour—the prosperity of England due to individual energy, and not to the direct help of the Government. 4.—In India the case is quite the reverse, the few officers who govern the people, try to do everything for them—a brief detail of the works connected with agriculture which the Government officers have to do. 5.—*(C), *the loss of the advantages of joint interest in a work—the peasants do all the work connected with the necessaries of their life individually—the Government-paid servants who are supposed to make improvements in the works of the peasants, have no joint interest in them, hence the efforts of the Government do not succeed. 6.—The efforts of the Government to do good for the people prove no success, and create ill-feeling into the bargain.*

IF, from the point of view of political economy, we trace the origin of the idea of the necessity of government, and apply the rule of the division of labour to solve the problem, we shall find that the object of "government" is nothing else but to protect Society from the violence of enemies, and to provide peace by keeping down the natural evils of the community. Hence the primitive idea of government had no other aim than the security of society, by which the labour of its members should be productive, and the wealth of the society being thereby increased would add more and more to their comfort and elevate their prosperity.

But, as the body of a government, as a rule, is constituted of one or more persons who are very powerful, or distinguished in society for their abilities or sympathies with the people, therefore practically the object of such a government is inclined to become, and now generally is that, besides holding the responsibility of the above-mentioned duties, it also looks after public utility and adopts such plans as it may consider effectual in promoting the good of the people.

But now, commonly, there seems also a *third object* of government, which is to bear on its shoulders the blame for all sorts of grievances that arise in the community by accident, by natural or unnatural causes, or even by the fault of its members.

It seems natural that it gives some sort of comfort and relief to lazy people who will not do anything for themselves to put the blame of their idleness and of the distress that originates from this source on some other person or cause. In trifling matters they blame want of time and bad weather, and in important matters legislation and the government of the country. We call this habit natural for this reason, that it seems not to be a peculiarity of Asiatic countries only, but we find a good example of it in Ireland, too. This country, like India, not availing itself of its own energy and capital, thereby certainly is in a most miserable condition in comparison with its neighbours; but, instead of seeking out the secret of this great fault of their own, the people console themselves by blaming the Government. It might be admitted, as they say, that certain special laws have put some hindrance in the development of their industry and trade—in other words, in their prosperity; but after seeing and comparing their circumstances with those of their rivals, common sense would never admit this excuse into consideration to the extent of believing it to be the chief cause of their distress.

We Asiatics had, for a very long time, an object for our fault-finding, which we all called "Kismat" (luck). Though the introduction of this word was based on the most sensible and philosophical views, yet, unfortunately, the sense of it has been so much corrupted, and the use of it so much exaggerated, that at last it became absolutely detrimental to our progress. We became so accustomed to rely on Kismat that the function of our energy and ambition became dull. In cases of accidents and natural calamities over which no human being has control the word Kismat has always been used as a stimulant for consolation.

But it seems that for a century and a half past, that is from the time when the star of the old monarchs of the country began to sink, and the changes and deterioration in the mode of life and in the circumstances to which we had been long accustomed, began to take place, and we were unable to devise any plan for making up our losses, we have been blaming Kismat in cases of the economical defects and failures also.

Unfortunately, remaining quite ignorant of the new form or theory of political economy which was introduced by the present Government, and which is the only means of producing wealth and thereby bettering our condition, *i.e.* the bringing out of native capital and individual energy, and the old system of Eastern economical affairs becoming obsolete and useless, we had nothing else to give relief to us in cases of depression but the long known friend "Kismat"

The present Government did the best that it could for us; it sowed the seed of freedom, justice, education, &c., cleared the jungles, made new roads and railways, facilitated the means of communication, and also the system of Exchange, by which we can derive the benefit of free trade *(if we have anything to give in exchange)*; and it tried to spread

Western civilization and ideas. As much as convenient, it gave liberty of the Press for expressing our thoughts and wishes. But, unfortunately, the Government gave us no lessons in *self-dependence* and modern Political Economy. So with all its benefits we did not learn how to produce wealth or to better ourselves; but we did learn that we could abuse the Government and blame it if we liked; in other words the ideas of English liberty, and of obtaining the rights which English subjects possess under their Government, developed more than the idea of English economy, self-interest and private energy. The result which is produced by this is, that now we are abandoning Kismat, which really has ruined us, and have substituted the Government as the object of our censure. In short, as of old, we used to depend on Kismat, hoping that it would do everything for us; so now we expect that Government will do the same. But Kismat was a power which we could not fight or argue for not doing what we required of it, and we could simply console ourselves by blaming it; but Government, being a visible object, besides blaming it, we can remonstrate with it, and grumble till our wishes are fulfilled, or show our annoyance if they are not acceded to.

We do not mean here arguing with the Government in matters of legislation, which is a good thing. (We wish that we did so, for really at present there are too few who have the ability to do it). We simply mean blaming the Government and depending on it in economical matters. Thus, when our fields do not produce as formerly, or our cows give less milk, we are apt to say this is the fault of the present Government, and we depend on the Government to find some remedy for us.

Supposing that the decrease or the drawback in our other affairs is due to the change of Government, or, in other words, the change in the form of political economy, we ought to have prevented it by increase of capital, which would have been the means of making up the loss; either by good and improved farming, which we cannot do without capital, or by providing other occupations for the surplus labourers, and so restoring the land to its original condition and giving it more rest and a larger supply of manure and water (even the present quantity would be sufficient for a smaller cultivated area), and thereby making it more productive. And supposing that we formerly did not know this, and that no one taught us the lesson, yet now we must let bye-gones be bye-gones, we must learn it, we must do it ourselves, and no longer depend on Government help for it. It is quite impossible for the Government to do this or any other thing of the kind for us.

As, unfortunately, the present Government took upon itself the responsibility of doing everything for us, and, either from some political reasons or because it found us unfit in our present condition, never encouraged or taught us to do anything for ourselves, but rather kept us free from all these troubles, from this over-care for us three very serious evils generated. Firstly, the above-mentioned one—the loss of the functions of self-reliance. We not only depend upon the Government for feeding and keeping alive our poor, but we are taught to look to it for every boon however trifling and unimportant it may be. Now, as a matter of fact, we have neither the knowledge nor the means or energy to do anything for ourselves. For instance, we

expect the Government to keep our streets clean, to drain our lanes, to supply fresh water for our drink (which, unfortunately, is becoming saltish in many old cities and towns), to tend our sick, to carry our parcels, and so forth; everything, in short, has to be done by the Government.

As far as my knowledge and enquiries go, I have never found that such ideas of the responsibility of Government ever existed in the Nawabi time. For the every day necessities, or works of ordinary life, which society naturally is in duty bound to divide among its members, we never depended on the help of the old Government, and never grumbled or blamed it if our plans proved unsuccessful.

How singular the idea is that we should depend upon the help of the Government for carrying on our ordinary economical transactions. Is it possible for a Government to do these things or to help in doing these things for us?

The second evil, which originated in the attempts of the Government to do everything for us, is the loss of the advantage of division of labour. Although all possible exertions are made to promote undertakings of utility, yet practically it is generally found very difficult or even impossible to produce good or satisfactory results. The reason of this is that the benefit and the advantages of the division of labour and of individual energy have never been taken into consideration. It is evident that if one man were obliged to do all the branches of a work the progress would be very slow, and the result would not be good; and supposing the same man has to do fifty other works with all their details certainly the whole business would be involved in great confusion. We see that progress, improvements, and obtaining good results from work in England is due not to direct help from the Government, but entirely to individual energy and to the theory of political economy—division of labour. For instance, we take agriculture again, which seems in England to be at the highest perfection, and in spite of its very limited profit and the very high cost of labour, to be, as a rule, still profitable to the farmers. Has any Government effort or help done this? No! it is due to the combined action of society, viz.: the Royal Agricultural College that teaches the science, the Royal Agricultural Society that collects and diffuses all the new ideas, experiments, &c., to the perseverance of Sir J. B. Lawes, of Rothamstead, to the exertion of Drs. Gilbert and Voelcker, who watch all the phenomena and changes connected with the life of stock and crops; to Messrs. Howard, who invent and make useful implements; to Messrs. Sutton and Messrs. Webb, who produce and select perfect varieties of seed; to Olendorff & Co., and others, who make good artificial manures; to the General Land Drainage and Improvement Company, &c., who lend capital (the mother of all improvements) to make improvements; to their staff who carry out drainage and fencing, erect buildings and the like; and to the efforts of many others, such as pedigree stock and horse breeders, seed and manure testers, hurdle makers, &c., a complete list of which would add a hundred more names.*

* These names are given only for example. Such agencies or their branches are found within the reach of every farmer in every part of Great Britain.

These members, by their combined efforts, are not only useful to society, but by dividing the labour among themselves, thereby they make their own living too, and increase the wealth of the country into the bargain.

4. Now, on the other hand, let us contrast with the above the nature of the same work in India; and take, for example, the provinces of the North West and Oudh. At the first glance we see that we have only 79·9 persons constituting a staff that is engaged in governing every 10,000 people, while England has 95·8* Of persons engaged in the defence of the country we have only 13·7 (a portion of this force also is composed of foreigners), while England has 123·4 per 10,000. Notwithstanding this lower proportion in the number of persons who hold the office and responsibility of governing us, if we carry our analysis further, and go into detail, we arrive at this result: that a larger proportion of those persons in India are mere menial servants or village watchmen, who merely play the part of a collie dog in the management of a flock of sheep. They are in their habits of life and instincts precisely like the shepherd's dog. In reality, to govern 44,107,869 people of the province which we have taken for our example, who occupy an area of 106,111·5 square miles, of whom 90 per cent. belong to the agricultural class, we have only 51,303† or 11·86 per 10,000 officers who hold all sorts of responsibilities, and try to do everything for us. *N.B.*—If the reader will look at the preface of *Oudh Gazetteer* he will find some remarks in it corroborating the above ideas. To make the detail more clear we will take a district—Pratab Garh (Oudh) for example. It has an area of 1436·5 square miles, 2214 villages, 194,308 huts and houses, 847,047 population of both sexes. Average number per square mile: of persons, 415; of villages, 1·5; of occupied houses and huts, 64·7; and number of persons per house, 6·4. To govern this district there is one head officer, the deputy commissioner, who is assisted by one or two European assistants, two or three native extra assistants, one district superintendent of police, three subdivisional revenue collectors, three inspectors, and seven sub-officers of police. Beside the above administrative and police staff he has one officer of public works, one of health, one of education, one of salt, one of opium, one postal officer, with their respective establishments, such as three hospitals, about 90 schools, 20 post offices, and moreover a staff of menial servants, as porters, peons, constables, teachers. Now the above-mentioned officer, with his two European and three native assistants and some clerks, at the head quarters of the district, and with the three sub-division officers, each having one assistant and about six clerks, is expected to do for us everything that is required in the world. He collects Government Revenue, amounting to Rs. 1,043,923. In case of the default in the payment of

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* N. W. P. and Oudh Census Report, page 123:—

Per 10,000 people.	England		N.W.P and Oudh	
	Male.	Female.	Male.	Female
Persons employed in Government of Country	90·3	5·5	79·6	0·3
" " Defence	" 123.4		13·7	

† Page 105 of C. R.

the revenue by one or more landowners in the district, the officer is to take the management of their estates under his immediate control, and work in every respect as the representative of the landowners. He is to collect the rent from the tenants (nearly all of them having holdings of not more than two or three acres), and in case of their default in payment of the due rent to enter an action against them in the law courts. He is to manage the Encumbered and Court of Wards' Estate in his jurisdiction in the same manner. In many cases he is to act as a curator and trustee of estates. Collecting rent and the revenue is such a task that only the officers who have to do it know its difficulties well. It is impossible for us to make those people understand the difficulties who have no idea of the nature of the work, and the circumstances of the masses from whom the money is exacted. The officer keeps the whole district in order, tries all sorts of cases—municipal, revenue, and judicial—(but not the civil cases, of which he was relieved only lately). These officers are in duty bound to travel over the district, and make themselves acquainted with the wants and difficulties of the people—to see how far the hospitals, the schools, post offices, &c. have done the work successfully—to see that the cultivation of opium is encouraged, that salt is not manufactured and spirits not distilled. They register many sorts of documents, sell stamps and opium, exchange cheques, money orders, copper, &c.—collect all the returns of the social life and health and of the meteorological variations and market rates. The head officer in the head quarter of the district has to keep an hotel (Dak Bangalow) for European travellers—a park or garden for the supply of vegetables, and for use as a pleasure ground—to manage a club, a library, a racket court, to supply food for all visiting officers, and to the army if ever it passes through the district.

Besides all these administrative, magisterial, and voluntary works, he is supposed to encourage industry and manufacture by means of the jail, which he has in his charge—there is no other place for manufacture in the district—to promote female education, art, learning, &c. Moreover, he is bound to look after the works of public utility. He has to superintend all the municipalities in the district, to make roads and bridges, build schools and post offices by means of the public works staff which he has under him—to see that the sanitary arrangements in every village are satisfactory—that the children are vaccinated and sent to school. Above all, he is bound to write a report on the progress of each of the above works—to keep up correspondence with immediate and provincial officers—to make bye-laws—to give his opinion and write reports on local and general legislation. To give a full account of all other important miscellaneous work that he has to do, and of the details of all the above works, every branch of which he has to look after, and is supposed to advance, would be ridiculous, and the detail of all the special work which, in cases of epidemic, famine, etc. he has to do, would unnecessarily enlarge this paragraph.

Our readers who know India are aware of these facts, and those who do not know them can now form an idea of the complexity of the work which our ten officers have to do for about 850,000 people. However, we should not leave this subject without finishing our object, that is

enumerating the detail of the branches of work connected with the improvement of Agriculture which our ten officers have to do, and we have promised to compare them with the same work as it is divided by the community among themselves in England. The district officer, in addition to collecting all the returns and keeping the records and accounts of the Government Revenue, which is a part of his legitimate duties, has now to collect by means of a very irregular and untrained staff of village clerks, Patwaris (teaching, training, examining the men of the staff, supervising their work are additional branches), the returns of all the gross produce, the area under each crop, the irrigated area, &c., three times during the year, which is one of the most useful of all his many functions. His other duties connected with this occupation are: 1.—To encourage the means of irrigation. 2.—To encourage the people to introduce and sow exportable and useful crops, such as China grass, Kulpahar or Bundilkhand, New Orleans or American cotton, Lucern grass, mangold wurzel, by showing experiments in the gaol and public garden. 3.—To introduce and encourage the use of the caisar plough and Behia sugar mill which have been invented in theGovernment Experimental Farm at Cawnpore, 120 miles from the Pratab Garh, one pattern of which has been sent to him in order that he may find out whether the local oxen can drag it and the local blacksmiths repair it if broken. He is supposed to let his people know the results of the experiments tried on the Government Farm, and to make them familiar with the names of bone dust and superphosphate. 4. The same officer gets a few lbs. of seed, improved grain, grasses, vegetables, and fruits, and tries to induce the people to grow a handful of these seeds, and see the benefit of them. 5. He keeps one or two pedigree bulls to cross the local kine, and sometimes they are sent by turn to the head quarters of the subdivisional officers. 6. He is pressed by the higher officer to lend money on terms for improvement (Takawi) after very complicated inquiries. Not only in agriculture but in arboriculture also, he has to superintend all the details connected with this work. 7. He has a nursery connected with his own head quarter and those of his subdivisional officers, and the process of planting trees on roads and other places is continually going on. In the same manner, in horticulture also he is considered in duty bound to make progress. 8. He tries experiments in planting dates, palms, and other foreign fruit trees, and has to encourage the sale of graftings and other improved fruit trees which he has grown or wishes to introduce. The same is the case with flowers, &c. We are again afraid that a full list of subdivisions of agricultural work would be long and tedious. And again we are afraid that those who are not fully conversant with the actual nature, difficulties, and rate of progress of such work, will not understand why the officer, who has an establishment for each branch, finds a difficulty in supervising these details. Perhaps many of the Government officers, too, who seldom find a chance of witnessing the facts with their own eyes, but have to gather their knowledge from the returns and the reports of their subordinates, would not agree in this remark; and we have no time at our disposal to give the whole description and history of each work from the beginning up to this time, or to point out and explain all the difficulties; and to

compare the amount of work that has been done with the amount of time, labour, and money, that has been spent, and to quote from official papers and reports the passages corroborating our remarks. But we are sure that if the nature of the district officers' chief and ligitimate works, and the nature of the subdivisions of these works, which again split into hundreds of branches, could all be taken into consideration, with a little thinking it would be seen what a complicated net work all these branches coming together will make; and common sense will admit that this problem can never possibly be carefully worked out. However, the following paragraph will give some general notion of the reasons why the labour of our officers and the outlay produce so little result.

5. It is a recognised fact of the old and modern political economy that there is a good deal of difference between the work done under the influence of joint interest and that done for wages. However advanced in civilization, straightforward and conscientious people may be, they have a natural tendency to spend more time, care, and exertion on piece work than on work which is paid for by daily wages; because in the former case they work under the influence of joint interest, and in the second case under the mere influence of wages. Moreover, there is a great deal of difference between the interest taken in work of our own and that taken in the work of others done simply for the sake of wages.

Now take the case of India, and apply the above rule, and consider the condition and the wages of the people by whom work has to be started and has to be carried on to certain stages. For example, take again the work connected with the improvements of agriculture in the district of Pratab Garh, having an area of 1436·5 square miles, and 2214 villages, the average holding being only 7.78 acres per farmer having a family of 4 persons, or 1·76 acre per head. * The farmers of such small holdings take a lease from the land owners, and, of couse, generally work themselves with the aid of their family; some also employ labourers. In other words for their respective farms they have to provide every thing—labour, manure, seed, water, and implements; and as a rule, they make every sort of improvement which they can by means of their labour and small income individually †; and besides the field work the majority of them pasture their cattle, dig their own wells, build the mud walls of their huts, thatch their roofs, bring their fuel, grind their corn, draw their water, and spin cotton for their clothes. Division of labour and combined action in producing or improving anything, owing to their poverty, is totally unknown except sometimes in the form of exchange of labour amongst themselves. Besides a few corn dealers (5 per cent. of the total) who lend the farmers, at an interest of 25 or 50 per cent., seed for sowing, and food when they have no crop in the field or grain at home to live upon (the full description of their business and terms will be given hereafter), there are no other private persons who have

* Census Report, page 134, paragraph 172.

† The proprietors of these holdings, if well to do, as a rule, do general improvements, as providing the substantial or permanent means of irrigation and occasionally help by lending money in case of the death of plough oxen and also by giving wood and straw for thatching to the most helpless.

any transaction connected with this occupation. No firms for the supply of implements, seed, manure, &c., and had there been such, no money to buy with.

Now, in the absence of private enterprise and means, Government considered it to be its duty to try and make some improvement in this important occupation, which, if it ever became flourishing, would certainly flourish to the advantage of the State as well as of the individual. But, instead of making the people able to look after their own success and interest, in other words making them see the necessity of proposing these ideas to themselves, and of carrying them out if they had the means—(of course it was a very difficult task, as they are generally miserably poor)—took the task into its own hands, and provided those means which we have mentioned in the foregoing paragraph, such as pedigree cattle, specimen caisar ploughs, handfuls of seed, &c. The success of such works is aimed at by those ten officers of the district, who are, of course, paid servants, and have no joint interest in the business, and by a few of their ill-paid subordinate clerks and menial servants. The officers, if ever they find time or opportunity of doing this extra work, have no other means of enforcing their advice but the influence of their official rank, which, as a rule, is never agreeable, and in the case of India always very troublesome. The people are not educated, and accordingly a simple notice or written article would not be enough to explain to them what the Government has proposed for them ; and, owing to the same reason, it is impossible to let all the people know the plans for their good which are designed by the Government. A very few, perhaps a score, out of 847,000 people, who are considered most enterprising, are summoned at the head quarters of the officers, of which there are only three within an area of 1436 square miles. They have to walk this distance, as they have no railroads (because they cannot afford it), and, as a rule, they have to bear the expense of serving the summons, and are obliged to leave their work. Now, after all this they receive, say an ounce of beet root seed, and are instructed how to cultivate it, and ordered to come back again to report its result. They were ordered to explain to their neighbours the advantages of the root, which is very nutritious for cattle, and also yields sugar. The poor people, being ignorant, at first naturally have great prejudice against new ideas ; secondly, they have never seen the seed or heard the name of the root before. They do not know how to cultivate it properly, indeed they do not try to cultivate it for fear of having to undergo these troubles every year. So, after two or three years' troubles, and hearing no report of success, the officers reported to their superior officer—" Experiment made, no success," and the question of encouraging the cultivation of beet root is dropped for ever.

We have no time and do not think it necessary to give details of other similar efforts, or to explain in what troubles the people are involved, how far the attempt to do good becomes a nuisance for them, and how, at last, the expenses and exertion give no good result, but, on the contrary, awaken ill feeling. We believe that the above example is enough to give an idea; and to prove that such attempts have never as yet been successful, and therefore probably believe never will

be. We refer further to the patent facts visible in Oudh. That although Government has been making efforts for our improvement for a quarter of a century, yet (except the main works of public utility, such as roads, bridges, schools, post offices, &c.) no perceptible success or result can be noticed anywhere in the country of the efforts with regard to the national welfare of the people. We mean (referring again to Agriculture) its efforts to improve the breed of oxen by keeping bulls for crossing—to increase production by the use of the caisar plough and bone dust—to raise good food for cattle by cultivating beet root and lucerne—to increase our export trade by introducing and cultivating china grass, American tobacco, cotton, hemp, &c. Some success, but not much, has attended the efforts to plant shade trees from the Government nurseries on the road sides; so also something has been done for permanent improvement in irrigation by means of Government loans. But the people are most unwilling to take the Government loans even at low interest, owing to the trouble connected with the transaction; and this fact alone is sufficient to prove that the attempts cause difficulties, and are therefore useless. Could the money have been obtained from the Government with fewer obstacles, there would have been no reason for the farmers preferring to borrow it at 25 per cent. interest from local Mahajans, and their being consequently slack in making the improvements.

Secondly, we refer to the evidence collected by the famine commissioners, and to the many passages in their reports; for example, page 31, paragraph 1—"The success which has been obtained hitherto by the efforts made by Government to improve Indian agriculture has not been very encouraging; but an account of these efforts is not without interest, although they include a large admixture of failures and mistakes." Pages 143 and 14, paragraph 1—"Advances for the improvement of land are now made for the most part under Act xxvi. of 1871." Paragraph 2—"The evidence we have received regarding the working of this Act renders it unquestionable that it has failed to realise the intention of promoting improvements, and there is a very general reluctance to make use of its provisions." "The sums which have been advanced under the Act are extremely small, and bear no proportion whatever to the need which the country has of capital to carry out the material improvements. This result is alleged to be due to several causes, among which the following are most important—the obstacles created by inefficient native subordinates, to whom the granting of such advances gives extra trouble; the delay and expense of the initial procedure, under which the first application has to be stamped, the bond for repayment stamped and registered, and a minute and troublesome enquiry has to be made into the nature of the applicant's tenure and its value; the necessity of paying interest, which is usually fixed at 6¼ per cent. per annum; the small number of years over which repayment may be spread, and the consequent largeness of the annual instalments; the early date at which they begin to fall due, even before the improvement has begun to realise a profit, and the rigidity of the rule for punctual payment."

Thirdly, we refer to the reader's own judgment, that taking all the

disadvantages in view, such as the fact that the work is done for wages, not for joint interest, by a few men who have a hundred other administrative labours to attend to under the influence of the governing power, the complicated rules and regulations, the fewness of the centres in a large district which obliges the people to undergo expenses and the trouble of walking, leaving their work; the ignorance, the prejudice, the poverty, the incapability of the people; he should consider himself whether any help of the Government in such cases is likely ever to produce any satisfactory result, and encourage the people to derive benefit and learn a lesson from them.

6.—Now a few words about discontent. The efforts of the Government and the public outlay prove not only to produce no good result, but they even give rise to bad feeling into the bargain. As for every thing in the world some expenditure is necessary, so in most cases for these works also the Government extract the cost from us. There being no joint interest the people feel that they have to contribute money, so every new proposal for our good gives a new shock to the people, who say, "Another new plan to take money." It is quite natural that we ruin ourselves by expenses for works in which we have an interest or which we do ourselves, however unproductive they may be; and this we do not feel; but we grumble if we are forced to give anything to others, and at the same time if we were doing our own work we should not only give to it our best attention, but we should be careful to do it with as little expense as possible. Both of these advantages are lost in case of the work being done by the Government officers, and the people feel it deeply when the money is taken from them.

They do not see any good result, rather they don't know where the money goes and what is done with it, but they are made to contribute now and then for something or other (not directly by Government, but indirectly through their landowners); and sometimes they have to pay direct taxes, and therefore *sarkar to loot ti hai* (Government is robbing us) has become a common phrase.

Now, at the conclusion of this chapter, we ask of those who recommend and cry for Government help for our good, to show what are the advantages and which are the reasons that make them rely upon Government help for bettering our condition. Is it not what the Government is doing already too much? Is it possible to do anything more than this? Has it given any good result that we expect the same in other cases?

Now let us take a new starting point, and suppose for a while that the Government should cease from its present efforts. Let it only defend the country, make and carry out the laws, which are the chief and the only duties of the same Government in its native country. Let the Government cease to meddle with our economy, or, as they propose at present, let us govern ourselves, forming local self governments, what would be the result? Would the country be able to derive any benefit from this change in its present condition? Supposing the Imperial Government made over that money which is annually extracted from the country for public beneficial works to the members of the proposed

local self government, who would be 10 or 12 in number, and, like our old municipal and jury members, be made to assemble once in every month to play the part of dumb puppets on the stage; and supposing the model caisar plough, the pedigree oxen, and so forth were given to their charge, and they were asked to place their signature on the pay bills of the local menial servants, what would be gained? Even supposing the district officer never meddled with their business, and they were allowed to do what they liked, the question still would be how much would this add to the material prosperity of the country—nothing but an empty pride and a new name.

This *plan of joint labour and interest*, or, in other words, local self government, which we are really in want of, is, no doubt, *the* seed from which our prosperity must come. But if sown in the present condition of the soil and in the usual way, that is by the choice and labour of the Government officers, we are afraid it will produce no healthy growth. Like all other efforts for our good, either this also will die soon, or in the official books by the side of the municipal members, jury members, we shall see a few more names of corporation members also, but no result whatever.

Moreover, supposing that the time were come (which is really impossible to come unless with the increase of material wealth of the country) that our governing men or Corporation members were selected by our own people from our own able men, who really are not scarce in the country; and the members exercised the same power with the same talent and zeal as their fellow subjects in England, and we had gained them by full advantages of joint labour and interest, yet this will be only in the matters of local government. At any rate this alone would not be enough for what is called *the material prosperity of the country.*

We want the benefit of joint labour and interest in every branch of our work. For example, again take agriculture; we want good implement makers, good cattle breeders, seedsmen, chemists, manure makers, money lenders, &c., &c., within the reach of all our farmers, Government experimental farms, of which there are only three or four in the whole of India, are not enough. And not merely this, but we also want money for our farmers to employ these persons. Now the answer comes again that we cannot do all this without capital.

The first obstacle which we see in our way towards realizing these imaginations is nothing else but the want of *capital*, and why is there no capital? because there is no *individual energy.*

CHAPTER II.

Modification in Legislation.

1.—In India legislation is well attended to. 2.—In this chapter the question of the modification of law relating only to Agriculture will be treated; the question of the relation of landlord and tenant in India is in constant movement; in the Famine Commission Report the attention of the Government is most particularly drawn to this question; in the United Kingdom also this question has attracted the attention of statesmen. 3.—The Bengal Tenancy Bill: the probable reason of its origin. 4.—It is to be seen to what extent the object in view of bettering the condition of the peasant can be obtained by the proposed modifications: it has no effect on the material prosperity of the country. 5.—The present condition of the peasants: the points of modification. 6.—The Advantages and disadvantages of the modifications; if there is supply of labour, and no want in other work but in agriculture it is impossible to shut out the labourers from undergoing keen competition; the whole community cannot be protected by the proposed modifications, and even those few who will be protected will derive little or no benefit; petty tenants are unable to make any improvement. 7.—The question of the help of Government comes in this problem again; the Agricultural Banks. 8.—Providing occupancy right is not detrimental to progress and improvement of land, but unexceptionally putting an end to the rights of the land owners to enhancement of rent is. The land owners can act as an Agricultural Bank if by some means they are compelled to do so, and can advantageously take the work of improvement into their hands. 9.—Summing up the advantages and disadvantages of the subject in question to find out the utility.

1. This means of improvement of the country is also considered very important. Scarcely a year runs by in which two or three new Acts are not passed and old ones are not amended. This is really a blessing for the country, and it shows that due regard is paid by our Government to our wants and difficulties. This true emblem of civilization, *i.e.*, change and modification in law, is by all means commendable, and nothing is more beneficial for a country than changing the laws from time to time in accordance with the change in circumstances and wants of a society. No doubt the more sensitive the machinery of laws is the more beneficial it will be. In India we are well protected by the Local and Provincial Laws. Every matter connected with our necessities and our well being, and which promises benefit to us, however trifling it may be, is sure to attract the attention

of our statesmen when it is brought to their notice. We have not only Penal and Civil Codes, Hindoo, Shaster, and Mohamedan Laws, but have many other general, special, and local Acts connected with public utility, and the protection of health and property; we have also Acts that would keep open the roads to prosperity if we had means to avail ourselves of them. The ignorance of our people and their having no voice to explain what they really want are great drawbacks in matters of legislation. Like children or dumb animals, they cannot tell the symptoms of their pain, so the diagnosis of their disease is simply made either by the patent symptoms or by the experience or guess-work of the physicans who have to treat them, and this causes a change of prescription more frequently than would have been the case otherwise.

2. Generally speaking, as a whole, our country is agricultural, and as we have taken this industry for the example in this work, so in this chapter we do not think it necessary to discuss the laws connected with other political matters, which would be going beyond the limits of our example.

As really the whole business of the country is connected with Agriculture—the revenue of the Government, the rent of the landlords, the food of the tenants and labourers, the merchandise of the commercial class—properly speaking almost everything is derived from it, and our legislators are always ready and busy in finding out and correcting the defects of the laws. This shows that this important question of Agricultural laws would never have been out of sight, and so it is, somewhere or other in British India official details and correspondence with regard to it are always in movement. Sometimes the laws relating to the rights of the Government and landlords is in consideration, and sometimes the question of the landlords and tenants is in discussion. The majority of the people being tenants and labourers (60 per cent.), and in such a miserable condition that a human being, after being conversant with their circumstances, cannot pass by without sighing for them, therefore the attention of the politicians is always particularly drawn to this question of landlord and tenant. However, since the Famine Commission, it seems that this point has become universally attractive, and a matter for immediate remedy. In several places in the reports of the Commission amendments of the laws are suggested. Page 117, paragraph 19—"Although the intention of the legislation of recent years has already been to define and protect the rights of tenants, it is proved by the evidence before us that the effect produced has been very different from the object aimed at." Paragraph 21—"The Commission have received a large amount of evidence, remarkable in its weight and unanimity, to the effect that in the Bengal Province the relations of landlord and tenant are in a specially unsatisfactory condition," &c., &c.

Not only in India, but in Ireland also, it seems that the politicians, in the same sort of question, consider it prudent to give more liberty to a tenant in his rights. By many witnesses before the Irish Land Commission the necessity has been alleged. For instance, page 64, Suggestion on the State of Ireland by Professor Baldwin, says, "What I do say is that the moment the Land Act told the Irish farmer that he had

an interest in his holding under the several sections and claues, then the Act ought to be consistent, and say, 'Sell whatever you have.'"

In another place the same eminent authority says (pape 42)—"I wish to state my belief that if you are to do anything you must curb those bad landlords, the same as you make laws to check every bad member of society. You want some measure that will have the hands of all good men perfectly free, and do something to curb the few who are really bad, and who are driving terror into society."

Mr. Marcus J. Ward, of Belfast, Ireland, in his paper read in the Ulster Minor Hall, on the distress in Glencolumcill, says (page 27)—"The second cause of the distress was said to be bad farming, due to farmers' *insecurity of tenure*, ignorance, and want of capital."

In this mother land of freedom, England, at the present day it has also been considered necessary to provide, to some extent, the means of protecting the tenants' interest in his tenure by legislation, and therefore the Agricultural Holdings Act was passed in 1883.

The Act alters the laws existing formerly, especially on the following points:—1. The notice to quit now must be one year instead of half a year. 2. The right of a tenant to fixtures and holdings erected by him, which now he can remove on giving a month's notice to the landlord. 3. The law and procedure under distress, in many particulars, is modified in favour of the tenant; thus efficient bailiffs are nominated by the judges; he may set off compensation due to him against arrears of rent due from him, &c., &c. And the chief and most important of all the provisions is that the Act makes compensation to the tenant for unexhausted improvements compulsory on the part of the landlord. And all agreements by which a tenant attempts to deprive himself of his right to the benefit of his own enterprise are rendered void by a special section.

But the other provisions of this Act are permissive, *i.e.* those who wish to contract themselves out of it can do so; and by experienced people it is considered that in the majority of cases the covenants of leases will exclude the other provisions of the Act, as such agreements are generally better when matters of free will than when ordered by a compulsory Act. An Act dealing on the same lines with Agricultural Holdings in Scotland has also been passed.

3. All these universal opinions in the matter of the relation of landlord and tenant, and several local and special causes combined together have recently led the attention of the Indian legislative members to the subject with greater earnestness than at other times. The first result of this is the Bengal Tenancy Bill, which seems to have caused no less excitement in the part of the province where it is meant to be enforced than the other bill which is known by the name of the Ilbert Bill. It is hardly necessary for us to quote here the reasons and arguments from the speeches of the honourable mover, seconder, and other members of the Council, or to quote the opinion of others who are in favour of the proposal. All the reasons and the arguments are based mainly on one of the patent facts. (1) Modification of the laws has been considered necessary, because the tenants are living in

unbearable poverty, * and (2) because it is a fundamental maxim of a civilized Government that the most helpless need more protection ; or perhaps from a law of political economy that always has been in discussion, but is not yet decided, and which we can explain better by quoting passages from the works of other authors. As the modern American politician, Henry George, in his work, *Progress and Poverty*, page 27, recommends—"And all this relative wealth, which in common thought and speech, in legislation and law, is undistinguished from actual wealth, could, without consumption of anything more than a few drops of ink and a piece of paper, be utterly annihilated. By enactment of the sovereign political power debts might be cancelled, slaves emancipated, and *land* resumed as the common property of the whole people without the aggregate wealth being diminished by the value of a pinch of snuff, for what some would lose others would gain."

Another writer says—"Wholly unjustifiable *rents*. These are for things which are not, and which it is criminal to consider personal or exchangable property. Bodies of men or women (and much more their souls) must not be bought or sold. Neither must *land* nor water, nor air, these being the necessary sustenance of men's bodies and souls."—*Time and Tide*, 161.

John Stuart Mill, although he does not agree in the theory that land is not personal property, but rather proves that it has all the qualities of individual property, yet he says—"Whenever, in any country, the proprietor, generally speaking, ceases to be an improver, political economy has nothing to say in defence of landed property as there established."—*Principles of Political Economy*, by John Stuart Mill, Book 11, Chaper II., Paragraphs 5 and 6.

Many other authors have also been in favour of this theory—giving a list of their names and quoting passages from their books would be too long for this little work, but we must add one word more, that although some have approved of this theory, which is quite inapplicable to the existing laws of the social philosophy of the present age, yet there are many who are not in favour of it, and have opposed it successfully.

4 It is not within the scope of our attempt to treat the subject of political economy in these pages, and therefore we turn our attention to find out the utility of this economy, which is rather philosophical than political. Further, we know that the law of Sparta will not soon be introduced into the world. According to the existing social condition of the world, specially of India, we are in want of a powerful Government of capitalists, and where the proprietary right, however it may have been established, is of long existence, and is to remain recognized by law it would be a useless effort to decide the question of this theory. Moreover the subject which we have taken in question is confined to

* The poverty of the people in question is not so microscopic that a magnifying glass is required in order to see it. How they live, what they eat, and how hard they work, and how the produce of their labour is divided among themselves, the landowners, and the mahajans (money or grain lenders), is manifest in every corner in India. Those who have seen India know this very well. Describing the features here is unnecessary, but those readers who want to know about this should read part 11 of the Appendix.

the *material prosperity of the country*, therefore we must simply try to find out how far the object in view can be obtained by the modification of law in this proposed form, which is taking something from the land-owners and giving it to the tenants, or drawing a rigid line between the interests of the landlord and tenant, so that the former cannot encroach an inch on the rights of the latter.

Now, by simply giving a cursory glance at the nature of this problem, and without any further investigation, at first sight it seems that whatever advantages the proposal of modification of law may have from a judicial, sentimental, or sympathetical point of view, with regard to increasing the *material wealth or prosperity* of the country, it would have no effect whatever.

It will make no difference in the total wealth of the country if one person gains at the expense of another Although it may be admitted here that by securing and protecting the interests of the tenants they will be encouraged to make improvements in the land, yet it will make no difference, because landlords can do the same thing even better if forced or encouraged by law. As the same Henry George, who thinks that the land should not be considered as individual property, says in the paragraph quoted above—"Increase in the land value does not represent increase in common wealth, for what landowners gain by higher prices the tenants or purchasers, who must pay them, will lose." In our example the case is the reverse, as the landowner will lose, while tenants are supposed to be benefited by it.

Professor Baldwin, also, in his evidence before the Irish Land Commission, alludes to the same point; he says—"I think that if at any one time the whole property is worth a certain sum, and if at that time you transfer the slightest part of it to one man, of course you take it away from the other man; but I should say that the policy of the Land Act was that it was hoped it would cure the political evils of Ireland and pacify, and that in consequence property would increase in value, so that the landlord would be ultimately compensated for the loss"

So far about the common wealth or general prosperity of a country, which, from the above remarks and the aid of common sense, we see to be unaffected, whether tenant lose and landlord gain or the contrary. We admit that it is quite prudent and lawful to disregard the interests of a few if, at their expense, a majority of their fellow citizens can better their condition. But we have to ascertain whether, in the present economical condition of India, the object aimed at—bettering the condition of the masses—can be attained by modification of the law or not.

5. Now for a moment we should analyse the question, but before touching the points which are recommended for the modification of the law, and pointing out the obstacles and the difficulties which block the passage of their success, it seems necessary to give some hint about the present condition of our people who are meant to be protected by the modification of the law. The present economical condition of India is this: we are in need of a powerful Government, for which we must pay. We have a landlord class above us to share more or less in the

produce of our labour : this class will not be done away with altogether (and it is ridiculous to think that it ever would be) ; so whether we make them useful to society by obliging them to take in hand the work of improvement of the land, as they are the only persons who can do this, or whether we encourage them to sit idle by cancelling their interest in the increased profit of the land, in either case we have to contribute to their existence. We are slaves of poverty : we have no other occupation from which to gain a livelihood except the tilling of the land. Our holdings are very small, only 7·5 acres per family of four persons on an average, and we are quite thriftless ; therefore we are individually unable to make any improvement. We are uneducated, and little better than the oxen of the plough, for we don't know what the people in other parts of the world are doing ; we do not know how to improve ourselves, and have no tongue to complain, whether we suffer from the cruelty of the landowners, or the extortion of the mahajons, or the unkindness and neglect of the officials and servants of the Government who are appointed to take care of us. We have no means within our reach of improving either ourselves or our lands ; no choice of occupation, no capitalists, no money lenders. We have no journals, no patriots who, in case of our being illtreated either by landowner or Governments, would make our wrongs public and bring them to the notice of those who have the responsibility of protecting us. The only means we have for our defence is to leave our work to walk ten miles, to pay for stamps for petitions, for summonses, &c., and then bring an action against the offender, and thereby create enemity with the officer under whose care and protection we have to return, or with the landlord with whom we have to live ; and further, it is not certain that we shall obtain justice even at this cost.

All these points must be borne in mind. These are the obstacles which we have in our way in reaching the point of success, even though it may be tried by means of the modification of the law. These points will help the reader to understand better what we are going to say in the following paragraphs.

Of modification of law various plans have been recommended, and a good many points suggested by different authorities—Local Governments and private persons who have taken an interest in this matter. The two following seem to be the most important, and, as far as we are aware, it appears that particular attention has been paid to them :— Firstly—The establishment of occupancy right and the discouragement of tenancy at will. Secondly—The limitation of the period for enhancement of rent by a system under which the landowner would be deprived of the right to increase the rent of the land, and the rent would be revised at fixed periods by competent officials in accordance with the Government assessment. No doubt the reasons on which the proposed modification of the laws rest are based on sentimental and sympathising feelings ; and if the modification were carried out with the same feelings and kind regards for the people by the ill paid menial servants (patwaris and other clerks, &c.), with whom the poor victims of misery come into immediate contact, and who lay the foundation stone on which is built the whole administrative edifice, the poor would be greatly benefited.

The advantages of making these provisions in law have been fully described and logically proved; however, owing to our poverty and the above-mentioned reasons, and especially to our having no way of escape from this laborious means of subsistence, by the side of the advantages a great many disadvantages are to be seen. Many of the more important drawbacks have been pointed out by the Famine Commissioners in their reports; so, by a careful analysis of the subject, from the remarks alone of these eminent authorities, this result is obtained that, although the proposal seems to be very promising at the beginning, it will prove to be of no great importance in the end.

6. We now would try to lay before the reader some of the advantages and disadvantages of the proposal; and the result of this comparison would be a proof by itself of this fact—that the proposal is no remedy for our difficulties and wants; indeed, it would seem to be injurious to some extent in causing ill will between the two classes with very little or no benefit to the tenants, and in raising other new difficulties.

It is evident that by establishing tenancy right, and depriving landowners of the right of increasing rent at will, the advantages which are aimed at are the following:—1. The first and most important is to create for the tenant an interest in working his land. 2. To provide security for him. 3. To encourage him in making improvements on his land. 4. To enable him to borrow money for improvements on the security of his tenant right. 5. To give him the monopoly of the profit made during a certain time, by which it is supposed he will become thrifty and prosperous. 6. To save him from the misery into which competition and rack-renting are sinking him down.

These six are the most important advantages that are aimed at by the proposal. We will now give briefly a general account of the most probable disadvantages which occur to us.

7. All the above advantages and a hundred others of the kind added together will have no weight if balanced with this one ever beneficial and universally recognized theory of Political Economy, that there should be freedom in the relation of wages and labour; and of commodities and price. In every matter that comes under this rule, and at all times, this law has proved certain and unvariable. In reality this is the boundary line between Barbarism and Civilization. The simplest school books in political economy lay stress on this law, and show that every interference in this, either by State or by what is called trades-unionism or strikes, has always disturbed the harmonious transactions of a community, has been found injurious to the public interest, and has never lasted long. Therefore as long as land is considered the property of the landowners, or, in other words, as long as the tenant has to pay something to someone else for the use of land the matter would come under the above rule; consequently any interference in the freedom of the contract or transaction must be detrimental to both parties in the end, though such interference may appear very prosperous in the beginning. Any such interference by law in the contract of landlord and tenant is a form of trades-unionism, *i.e.* one party compels another party to pay higher wages or to give less price for a thing. There is no difference between this and the matter in

question. In the case of land, under such interference, the tenant would compel the landowner to give him possession of the land on certain terms, and the first result of this would be that an enmity between the parties would be created. The loser will look out for a chance to destroy the usurper, and as the loser (the landlord) is powerful there is every chance for him to be successful in his designs. The fact is alleged in the Famine Report, page 117, paragraph 19— "From all quarters it is reported that the relation between the landlord and tenants with occupancy rights are not in a satisfactory state, and are becoming yearly more and more hostile; so much so that a landlord will generally refuse any aid to his occupancy tenants when they are in difficulties, and will do all that he can do to ruin them and drive them off the land." . . .

Not only in India, but in England also, the evidences of this natural hatred can be found; these trades-unions have been the cause of many violent disturbances which we need not enumerate here; the reader can easily learn all about the drawbacks of trades-unions, the chief of which is bad feeling between the two parties concerned, from any book on political economy. However, for example, we will quote a few lines from the joural of the Royal Agricultural Society of England for the year 1878, part 11, page 586. Mr. J. H. Little, of Coldham Hall, a well-known authority on the subject of Agriculture, writes—"In 1871 an Agricultural Labourers' Union was formed for the avowed purpose of increasing wages. . . . The relations of master and man which, up to this time, had certainly been of a far more cordial and sympathetic character than those engendered by the manufacturing system, have thus lately received a rude shock, and one from which it may be doubted whether they will ever recover. The effect in the long run will be, probably, advantageous to both parties; but in the mean time a certain soreness has manifested itself on the part of the farmer, and a certain dogged intractably and surly independence of control on the part of the labourer, which does not augur well for the return of the old friendship in their future relations." . . .

Now, in case of the rise of this mutual hatred and enmity, the landowner wants to destroy his enemy, and wishes to regain the full control and mastership over the land that he had lost, but he has no other chance to succeed except by grinding his tenant in a legal mill, that is by bringing actions against him in Courts of Justice, and thus forcing him to leave his work, to incur expenses, and to meet with all sorts of difficulties and troubles. "When it has been effected the landlord's object is to harass the tenant and to diminish the value of his occupancy right by bringing suit after suit for enhancement of the rent. The probable result of such a struggle is in favour of the more powerful contestant, and there is reason to fear that in many parts of the country the occupancy rights have been irretrievably impaired." . .—*Famine Report*, part 2, page 117. The poor man also, unfortunately, has no other means for defence against this lawful tyranny and his powerful combatant's direct assaults but to seek for justice in the law court.

We have no space in our pages to describe how very disagreeable and troublesome this long struggle is for both parties, especially for the poor

penniless tenant. It would require quite as many pages more as we have already written to explain all the visible and invisible difficulties which a man of his position has to face by meddling with a law suit; and to give the causes and reasons of these difficulties (which chiefly arise from his ignorance and poverty, by his living on daily wages and at a distance from the court) would take too much time, and indeed be rather outside of the present question. Those who know the inner life of Indian peasants know this very well. Although some measures have been framed and remedies suggested to destroy the root and shut up the sources of this antagonistic feeling between landlord and tenant, yet it is impossible that law can change bad feelings into good ones; therefore, as long as this unhealthy feeling and the desire of the landlords to regain their lost position and profit exist, this legal struggle will not die. If one way is shut up, ten new ones will be opened. It is quite plain to understand that the more law is interwoven with a business, the more the parties concerned will find the necessity of coming in contact with the law; and in the case of India the more the poor people come, or are made to come, to meddle with law suits, the more their difficulties will increase. They may obtain justice, and may get themselves released from illegal treatment by the landowners, but it will be at the expense of their comfort, of their time, of their little savings, &c., &c., and then they are not released for ever, but only till a new opportunity of harassing them presents itself to the landlord.

B. In addition to the above-mentioned injurious result which is anticipated from the interference of the law, it would seem not to do much good to those tenants whom it was specially meant to protect; and in general it would undoubtedly prove a failure, because, as long as the world exists, this law of political economy, that "the increase or decrease of price or wage depends on the ratio between the supply and demand," will never be altered; neither can it be cancelled by the law of a sovereign, nor can it be checked by trades' unions. If the supply is greater than the demand, price will decrease. If the demand is greater than the supply price will increase. As this law is applicable in the case of tenant and landlord, therefore if tenants are more numerous than the land requires, the competition must be keen and the rent of land must increase. For example, a landowner has a piece of land, and a tenant pays a certain amount of rent for it; now were there no other tenant willing to pay more, the owner would never think to oust his tenant or ask him to pay more; but if he does so, there must be some other man in greater necessity than the old tenant, who is satisfied to do the work on less profit; now if the first tenant has the same amount of necessity he will be ready to continue the work on less profit, if not he will leave it, and the man of greater necessity will make his living by it. This law will prevail as long as the class which wishes to exchange its labour for the means of living can gain its bare existence from the work, or, in other words, till the margin of profit sufficient to keep up a bare existence is equally divided among the whole class; then the rates of supply and demand will become equal, and there will be no more increase or decrease. And in case of the increase of population, if the necessity of finding a liveli-

hood still increases the surplus of the population will die. Or, on the other hand, if by abnormal death or some other cause, such as some new means of livelihood being created, the necessity for tilling the land decreases, the price of their labour will increase, or, in other words, the rent of land will decrease. Like all other phenomena of nature, such as heat and expansion, force and motion, this phenomenon of *supply* and *demand* also has a natural tendency to rest only at an equilibrium point; and by the increase or decrease of the one changes will occur in the other. This competition, or passing the land from one hand to the other, seems to be one of the laws of nature, because all the new members that increase in a society and seek a means of living, can make others give them a share from the store that they (the old members) have in their possession only by this means. From this point of view we can say that the action of the landowners in ousting the old tenants and giving the land to new ones is not at all bad, because they turn out those who can do without the land and take those who cannot do without it. However, this, perhaps, appears very cruel; we do not mean that the landlord who takes advantage of his fellow creature's hunger to reduce him to a very skeleton in order to satisfy his own selfishness, should be allowed to do this. It was all right had he not been increasing his own profit by this. But at the same time we must say that if the tendency is to increase the rent of land, there is a supply of labour greater than the want, and there will be some individuals in want of employment; therefore if law is to prevent adding new and needy hands to the agricultural work it must first provide some means to support the surplus supply of labour. Otherwise either those who are in want of labour, without finding some means of subsistence, will die; or, however the law may hinder, they will go to the work which alone is within their reach, and will lead a life a hundred times more miserable than before. We mean they will go to the tenant whose rights have been secured by law, and will work for almost nothing, for only a handful of grain, in order that they may not die at night. And it is quite natural that when the tenants see that their work is done for almost nothing, and they lose nothing by it, they would rather prefer to sit idle and make the poor creatures work for them; thus a system of sub-letting will be created. This great evil is also pointed out in the Famine Commission Report, page 120, paragraph 31—"But this question of sub-letting seems to us of greater importance. The more valuable the occupancy right becomes by reason of such measures of protection as we have advocated, the more need there will be of guarding against a custom which is every where prevalent in India, under which the privileged tenant is apt to turn into a middle man, sub-letting the land, and living on the difference between the rack-rent and the privileged rate secured to him by the law. . . We therefore recommend that concurrently with the extension of the right of transfer the practice of sub-letting by an occupancy tenant should be discouraged, or even, if possible, forbidden."

What we have described in the foregoing paragraph will be more clearly understood if simply the above lines quoted from the Famine Commission Report and the following sentence from the same report

are considered well. Paragraph 1, page 34—"A main cause of the disastrous consequences of Indian famines, and one of the greatest difficulties in the way of providing relief in an effectual shape, is to be found in the fact that the great mass of the population directly depends on agriculture, and that there is no other industry from which any considerable part of the community derives its support.

From this it can be well understood why the custom of sub-letting prevails in India, because there is scarcely any other source of living, therefore as long as the necessity of keeping life exists either law will be unable to prevent it or the result will be quite fatal to a part of the community.

C. Now admitting this fact that in the present state of India it is impossible to do good for all, and leaving the consideration of those who will not directly derive a fair benefit from the modification of the law, or perhaps will suffer from it, viz., the tenants at will and the sub-tenants that are expected to spring up, let us consider how far that portion of the community which is to be strengthened by all means, and even at the sacrifice of the interest of others, can become prosperous by the proposal. To find the result we first of all take example from the condition and circumstances of the people of the same type that for a long time have existed in many parts of India. (*a*) The Government ryot of Southern India, who have no landlord at all, and pay the rent directly to the Government. (*b*) The privileged tenants of the North West Province (that come under Act X. of 1859) whose occupancy right is well secured. For the evidence about their circumstances firstly we refer to the Famine Commission Report, which is the best authority on the subject. Although we see many suggestions and remarks in the report in favour of the system, such as "Wherever enquiry has been made, it has been found that in all matters relating to material prosperity, such as the possession of more cattle, better houses and better clothes, the superiority is on the side of occupancy tenant, and the figures in the preceding paragraphs also show that as a rule they hold larger areas of land."—*Famine Commission Report*, page 118, paragraph 24. Yet in the same report we meet with many passages and remarks which are very discouraging, such as enmity with the landlord being created, and the unhealthy system of sub-letting coming into practice, &c., &c. as we have mentioned above. Moreover, about the ryot of Southern India, we see in page 112, paragraph 5—"Turning to the more general effect of the different tenures held directly under the Government we find no clear evidence that the tenure of the land-holders, whether it be ryotware or zimindare,* has any direct connection with their power of supporting themselves in time of famine, or that in order to increase that power it is desirable to revise or reform that tenure." Further, we find evidence in the report of a still more deteriorating evil that is engendered by securing the tenancy right to the people—page 131. It is commonly observed that landowners are more indebted than tenants with occupancy right, and tenants-at-right

* Ryotware—tenure directly from the Government. Zimindare—tenure directly from the landlord.

than tenants-at-will, a result obviously attributable to the fact is that the classes which have the best security to offer are the most eligible customers of the money-lenders. . . The following sentence of the report mentions that by certain causes the agriculturists of Punjab, Eastern Bengal, and Central Provinces are not under the burden, rather, are highly prosperous, and further, it says—"On the other hand the precarious out-turn of the crops, with other adverse circumstances, has grievously depressed the landholders of the Bombay Decan and adjoining districts of Madras as well as those of the somewhat similar region of Jhanse; and many of the talukdars (big landlords) of Oudh, of Sendh, and of Guzrat, without such excuse, have been led by a course of extravagance into a state of bankruptcy, to relieve them from the consequences of which special legislative measures have been framed." . . . Page 133, paragraph 13—"whereby the landholders, under cover of the proprietary rights they had acquired, were tempted to improvident borrowing." . . . The proportion of landowners seriously embarassed does not appear to exceed 30 per cent., but the proportion of debt to income is heavier than that stated to exist in the provinces, and about two-thirds of the debt is said to be secured by mortgage of land."

Secondly, for the evidence we consult our own personal observations and knowledge of the facts. There is no difficulty in comparing the condition of life of the two classes in question. In the districts of Oudh, on the borders of the districts of permanent settlement, what they call *Donkince Bandobast*, such as Jounpore, as well as on the districts of the North West, where the privileged tenants have long existed, such as Allahabad, the fields, the houses, &c., of both kind of tenants (at will and of occupancy right) lie side by side; and in that place one can easily pick up an idea of the difference between the two. In my own twelve years' careful observations and enquiries I have not yet seen anything to induce me to give preference to either of the two. Among the tenants at will I have seen, not less than in the other class, that people in easy circumstances keep their fields equally in improved condition, and laboriously worked and equally supplied with the means of irrigation; while I have seen among the privileged tenants men that are starving equally with the tenants-at-will. Having spoilt and lost all the privileges of their tenures they are working like farm labourers for daily wages under other farmers. From this we can understand that no doubt security in their right gives them a good chance to better their condition, but in practice the security alone does not better them. It is nothing but prudent habits, thrift, their having a command over good management, intelligence, and means of improvement that can really benefit them; and on possessing these gifts the tenants-at-will can do just as well. Many who have the privileged right in large holdings are certainly better off. Our tenants-at-will are ever the same; having nothing to sell, nothing to mortgage, and being entirely dependent upon their own thrift, they have no security to run into much debt. Really about three-fourths of them (as well as of the other class) remain constantly in debt to the grain dealers, who give them seed and support them; but this debt is cleared off at each

harvest, and does not make the burden heavy by double interest. On the other hand, my own observation has shown me that the poor privileged tenants of large holdings are in great trouble and in a most uneasy sort of life. The landowners hate them—try to keep them always under some obligation or expense. They are therefore invariably in debt to money lenders. Their being subject to, and in transactions with, two masters instead of one (landowner and money lender) brings them into double connection with the law-courts; accordingly they remain in more trouble and expenses than the others. Their possessing the means to incur debt is not a less misfortune for them. It would not be bad were it only possible to incur debt for the sake of improvements; but more than three-fourths of their indebtedness is due to the necessities of legal costs and their natural habit of improvidence. The natural habits of Indians, especially of those poor people who have not much reasoning power, and don't see or know how and where to apply their trifling savings are also important and not to be left aside. Their habits and customs have taught them that the necessity of working hard, saving, and of possessing property, is for nothing else indeed but to meet the expenses of marriages, births, and deaths, ceremonies, and to have the means of celebrating the annual religious festivals and large social gatherings "Beradrika Bhat, or Bhoj." By their social customs they consider themselves bound to do all this. The necessity of expense for the marriage of daughters in India is a great and almost inevitable cause for their incurring debt. They must do all these things even at the sacrifice of their next days' meal. I have seen hundreds of families with my own eyes who live for weeks without eating salt with their bread, and even accumulate a small saving from the grain they get for their daily wages, for such occasions. Our Indian officers know very well how often they have to try and punish the people in cases of this nature, *i.e.* when, for instance, men borrow money from Government (Takawi) under the pretence of making improvements, and lay it out in such expenditures.

This second form of the misfortune of the people is not of such a nature that it could be left unnoticed.

The necessity of enactment for securing the landed classes from this second enemy—debt—was first felt in Bombay. We are not prepared to say what have been the other reasons why the people have sunk so deep into misery in that part of the country that it provoked the attention of the Government to save them; still it is clear that the security of their tenures went far when they had been released from the hands of one tyrant—the landowner, and put them into the hands of another blood-sucker—the money-lender. There is not the least doubt that the same case will happen in every place where the security is given, and the Government will never be freed from anxiety for them, and from the care of protecting them. Sometimes help would be necessary to save them from being drowned in the waves of rack-renting; and sometimes aid would be required to protect them from being crushed under the burden of heavy debt and interest.

This point is also worth paying attention to, that after the kindness of the Government in saving them from the tyranny of the landowners,

when the poor people (owners of tenancy rights of three or four acres of land) are hard pressed by necessities, accidental causes, or the temptations of improvidence, they will be naturally tempted to meet their wants by pledging the security which they possess; and the first men who will take advantage of this chance will be the landowners, who will always try to regain their lost position by means of lending money, and will entice the poor tenants into this new trap. Even supposing that they were not allowed to put their hands to this affair, the other money lenders would advance money on mortgage of the land, or would simply lend it on the security of the land, and receive high interest; what difference in either case would there be between such a condition of the poor men and their present state? None but this—now they are the slaves of one master, and then they would become the slaves of two.

There is another point to be considered before leaving this question: that is, it has been proposed and recommended that the occupancy right should not be recognized by law as mortgageable or saleable property, and should be exempt from seizure under the decree of a Civil Court. What would then be the benefit of the right? In this case it is merely a cypher. Simply by the security of the right they would gain nothing. It is supposed that with such security they will improve the land, and so increase the profit, the whole of which (after payment of the fixed rent) they will keep for themselves without giving a share to the landowner. But improvements require outlay and capital, and it will be proved hereafter that their small profits are quite insufficient for making any improvements. How, or on what security, would they be able to get the money? and how, in the time of necessity, would they be able to save themselves? It is suggested that fellow tenants may be permitted to buy and sell their rights of each other, and continue the business among themselves. But as all are equally poor, we cannot understand how these poor people, who live from hand to mouth, would be able to play the part of the capitalist and borrower within the circle of their own society. There may, perhaps, be here and there one who is nominally reckoned among them that is called a tenant, and who is well to do: such a one might perhaps lend money and buy tenancy rights, but he would soon make a fortune by this business, and would become a capitalist; but then there would be no difference between him and the other money lenders or the landlord. In a few years' time he would be just as oppressive to his fellow tenants as the other two classes are; he would deprive several people of their rights, and would become himself a large owner of land or of tenancy right. *It is impossible for all to prosper without some being losers.* The same sort of drawback appears in the proposal as to sub-letting. If the tenants are allowed to sublet, the under tenants will have to work at a rack rent, and will make the secured tenants idle; if sub-letting is forbidden, the land of the weak and poor, and of the families who have not enough hands to work it would remain useless, while those who can work more land, and desire it, will not find enough for their requirements.

In short, however law or private interference may check or stop the currents of the economical transactions of the country, either the

currents will rest at their own level, or, instead of being beneficial the checks will produce injurious effects.

After all there is the last point in the question still to be considered. Suppose we ignore those for whom law cannot do anything, and make them responsible for their own acts who, after being protected, fall again into misery through their own fault or misfortune. Suppose the proposal exclude these, still there will remain a majority which has its own means to make improvements, and is careful enough to protect itself from the above anticipated drawbacks. This portion of the population will derive the full benefit of the proposal. In reply to this we can say (1) This does not mean the material prosperity of the country. (2) Even at present there are many who make improvements and thereby increase their profit. These are the men who are expected to invest more money on the land and receive its profit. But these gain the profit of their prudence, hard labour, and outlay even now. If it were admitted that they, having no security, do not try to improve their land, still it is a known fact that they turn corn dealers, and thereby increase the profit of their outlay by robbing their poorer brethren. (3) For the sake of improvement, if these few, or say a few more, make a few more wells (as they cannot do anything more than that) this cannot increase the produce of the land so much as to produce any effect on the common wealth, so that the others would be able to receive a share from it. (4) If this proposal added something more to the individual prosperity of those who previously had some means, or if it slightly increased the number of this type, what good would it do for the poor? Those who are in need will still remain in need. (5) As long as the amount of the wealth of the country remains the same and does not increase, it is evident that whoever is benefited must be so at the expense of the others.

Here another suggestion occurs, that as a fact by their improvements the produce of the land will increase, and thus the amount of the common wealth will increase. But we hope that after taking all the above-mentioned difficulties and disadvantages into consideration, the reader will admit that there will be little or no difference between the present and future number of those who already make improvements; and the number of such men will not be enough to raise the prosperity of the country in any perceptible degree. However, we would try to prove hereafter that these poor tenants, a great majority of whom have no more than three or four acres of land per family, can indeed do very little or nothing in respect of improvements.

D. Considering all the above-mentioned difficulties, and natural and habitual hindrances in the way of the progress of the people, it seems quite a round-about path which is supposed to lead to public prosperity. We mean the proposals for providing security to the tenants in the interest of their holding, and for preventing the landowners from claiming any share from the future improvements; and by this to suppose the tenants will be encouraged to make improvements, and by overcoming all the obstacles, will do so in their respective holdings, and thereby the produce of the land will increase; and that thus either they alone, without giving any share

to their superiors or inferiors, will enjoy the benefit of the whole; or, that after a certain time the Government, through its officers, will make a revision and redistribute the sum of wealth among all the members of the community. Not only is this a round-about way, but many evils seem to be engendered by such a plan, some of which have already been explained. Notwithstanding all these drawbacks the plans may be considered very good if they could increase the produce by improvement. As far as we see by our own experience and knowledge of all the circumstances to which the men are subject, as a matter of fact it seems quite impossible on their part to fulfil this hope. We have more than once agreed that some of its features will prove successful; but there will be exceptions, and the whole cannot be expected to prosper. The reason of this is as follows:—We take the North West Province, again, for illustration. From the Famine Report, part 2, page 116, paragraph 15, we find—"The occupancy tenants hold 41 per cent. and the tenant-at-will 31 per cent. of the cultivated land, the balance being tilled by the proprietors themselves. It is estimated that the former class number 1,500,000, and the latter about 1,200,000; the average area cultivated by each tenant being 4·8 and 4 acres respectively. . . In Oudh there are nearly two million tenants holding on an average 3·1 acres each.

According to the Census Report of 1881, form xxi., page 4, the average number of cultivated and uncultivated acres per head of the agricultural population of the said provinces is 1·67, and the average incidence of rent paid per cultivated acre is Rs. 3. 5. 11*=5/6 per acre In other words, in the said Province there are four million seven hundred thousand cultivators of land. Each of them (on an average) has a farm of 3·9 acres, by which he supports his family, and pays total amount of rent for the holding, in round numbers, about 14 Rs. per annum=23s. 4d.

From the amount—14 Rs. or 23/4—which he pays as rent (in round number again) 8 Rupees are paid to the Government as revenue and local rates. Revenue, 1.11.5 Rs.; rates, 0.4.0 Rs. per acre. A balance of 6 Rs. net per holding is left to the landowner. In Ireland, where the distress of the peasants has produced so much agitation, the holdings are not less than about 25 acres. Out of 600,000 holdings two-thirds are between 20 and 30 acres, and one-third are more than 30 acres. The average rent paid by the tenant is from £4 to £5, or from 48 to 60 Rs. per annum. Rent varies from at least 18s. to £5 at most, or from 11 to 60 Rs. per acre.

Now the reader may judge for himself that a tenant in India, having a holding of three or four acres, and four men in his family, would simply exist by living from hand to mouth. How is it possible for him to do any substantial improvement in the land? However his tenancy right may be secured, as a fact, it is a matter of impossibility, not of chance, for him to do anything in the way of progress. We call this a matter of impossibility for this reason, that it is not only a supposition that the poor uneducated penniless tenant in a country destitute of capital like India, would not be able to do any improvement, but in

* 16 annas, or 1s. 8d.=1 rupee.

England also where capital overflows, the task has proved to be impossible. The assistant commissioners of the Royal Commission on Agriculture—Messrs. Little, Druce, and Colman—the best authorities in England, in their Reports of 1882, have alluded to this fact thus—Mr. Little's report, pages 35 and 36—"In the parish of Stogursey about 650 acres of land are still held subject to certain common rights . . . The 'fields' and 'moors' are divided into 'landshire' or 'ropes,' *i.e.*, separate plots or parcels of ground, the ownership of which is 'several,' that is, the particular portion which a man owns is defined. . . Under drainage is much needed, but in the present division of ownership any complete drainage, or indeed any improvement of the land is impossible."—page 47. The margin of profit is so small upon a venture of this kind that the owner of only moderate means does not make improvements unless he is compelled, and when he does build or drain, he does it in a temporary or make-shift fashion. But if small estates, whether settled or not, are too commonly badly supplied with the necessary buildings, I cannot help remarking that frequently on large estates more has been spent than was neccessary.

Mr. Druce, in his report, page 6, says—"The few peasant proprietors that exist were, in the opinion of the Bedford Agricultural Society, less prosperous than tenant farmers. They are scarcely known and the few do not succeed." Even in the case which some of our politicians recommend that land should be considered common property, and the tenant should keep the whole rent which he now pays to the landlord, and the system of middle man (landowner) should be abolished altogether; then although out of the 14 Rs. that he now has to pay as rent he would give 8 Rs. directly to Government, and keep 6 Rs. for himself, still he could do nothing in respect of increasing the wealth of the country (the produce of the land) together with the increase of his small income by 6 Rs. per year. As a rule his wants and ambition of living a little better would increase. He would like to add to his dry bread of the coarsest grain, and wild herbs, the luxuries of the purchased salt and vegetables. The six pieces of silver in the ocean of human ambition, like six drops, would not be seen where they have been lost. We admit that all would not act thus; many would try to make improvements, but even these would not be able to do much. It would be said "he will borrow money," but where is money: where is *capital?* Had there been *capital* the matter would not have come to its present state. This is *the* thing that is required for the country. There are a few money lenders, but the suppy is less than the demand. They will not lend money at less than 25 per cent. Can the tenant do anything at this rate? No. Well, let us suppose that he would be able to get the money at 6 per cent. This is the rate of interest in a highly wealthy and civilized country; but with his 6 Rs. income he can only borrow 100 Rs., and the first necessity in the direction of improvement is water. The cost of a well of 8 feet diamter, according to the circular No. 80 A of the Government of the North West Province, dated 14th November, 1877, is no less than 620 Rs. And according to the experiment of the Agricultural Department, 943 Rs.—page 12, report 1882; and is certainly never less than 300 Rs. on an average in

the most fortunate districts. Therefore with these 100 Rs. he can do nothing. Moreover, these works done on a smaller scale would be more expensive and less durable than the works done on a large scale by skilful men with the aid of large capitalists.

7. Here the question of the help of Government is met again ; and it has already been proposed that the Government should provide the capital for this ; but as, in consequence of their small means of paying interest, the money which they borrow would be insufficient for the work, it therefore would be necessary to propose, in addition, that the Government should take the works in hand, because there is no other means to carry them out in an efficient manner and on a large scale.

The first proposal as to providing the capital has already been brought into discussion. Sir William Wedderburn, of the Bombay Civil Service, has written a very elaborate paper on the subject of providing agricultural banks in Southern India. He has given a full history, and account of the necessity and advantages of similar banks which have been lately established in many countries of Europe, notably in Prussia and France. This honourable statesman recommends that, with the guarantee of the Government, European capital would flow into India on a high tide, and would cause the fertility of the country. In 1882, in the Legislative Council of the Government of India, Mr. Crossthwaite also presented a Bill on the same subject (Takawi for landed classes). The Honourable Sir Stewart C. Bally, K.C.S.I., &c., and the Hon. Major Baring seconded the motion, and recommended that the plan of Sir William Wedderburn should be adopted in carrying out the proposal, for which many methods had been suggested. The result of all these schemes seems to be that although it is intended that the banks should work as private institutions, yet, in every branch of it the Government connection and responsibilities in the end will be interwoven. No doubt, in the absence of private energy and native capital, such exertions and proposals are something better than nothing ; but, as we have proved in the first chapter, this will indeed add a good deal more to the legitimate duties and the immediate responsibilities of the Government officers ; and if the Government is to take into its own hand the making of improvements also, a hundred more troubles will spring up from each branch of the work. We need not repeat the tale which we have related before, that instead of easing difficulties such efforts can only block still more the course of progress. And it would be too much on our part to prophecy whether this second plan of offering the peasants pecuniary help will be successful or injurious to the common interest. But the reader cannot, without being illogical, deny these two facts. (A) That by the application of foreign capital, a share, at least, of the products of the industry of our labours, whether they sink a degree lower or rise 50 degrees higher, must go out of the country for the capitalists ; while, on the other hand, if the capital were our own, and applied in the same way, and on the same terms as the foreign capital, we should have the full benefit of our industry. In the latter case our country would not be a loser whether the peasant sank or rose. In case of his sinking down, our capitalist would gain what he lost ; and in each case of his rising the country

would retain both the capitalist's profit and the increased product ; not, as in the former case, only the balance of the increased product minus the interest on the foreign capital. (B) That in proportion as foreign capital circulates in the country, the capital of our present blood-sucking money lender will become unproductive, and therefore our net profit (if any) would be the increased product minus the interest on the foreign capital, and also minus the advantages of the money-lenders' capital.

Here we expect to be contradicted again, because it may be said that the capital of the money-lenders would be applied in some other productive works, and will be more beneficial because it will add to the benefit of the country. But our readers should remember the postulate which we have made use of in this work,—our own energy (or enterprise) and capital. For introducing every new work energy is required, and we consider it as a recognised fact that we in India lack energy. Had we been favoured with this gift of nature nothing more would have been required for us. But for this very want we would have started agricultural banks ourselves. India is not destitute of what we should term "individual capital," but she is destitute of national enterprise, therefore she does not know how to avail herself of the capital of the country. The only help which we need and the only lesson which we require to be taught is how to bring our own energy into motion. Foreign money and the exertions of paid officers are of little use to us. We must not hope, against the law of nature, that our work will be done for us if we do not do it, or at least attend to it ourselves. Nothing can be a greater curse to a country than its being dependent on foreign capital and the help of others.

8. Turning to the above question of tenancy right and enhancement of rent, we have to say a few more words. But first of all it should be remembered that the foregoing remarks have been made on a very general view of the question, and must not be accepted as rules without exception. Thus, while I have mentioned three or four acres as the average size of the holdings, many are of one or two acres only, or even less than that ; and many are of 10 or 12 acres, and some still larger, from 15 to 40 acres. The larger the holdings, the more beneficial in their behalf the modification in law may be expected to prove. From all the above circumstances, as far as we are able to judge, and from our long experience and knowledge of the question, providing occupancy rights to the tenants seems to be likely to do something better for a certain class of agriculturists. Not the nature of the proposal itself, but the surrounding circumstances of the life of the agricultural class will be the cause if it proves a failure in gaining the object aimed at. If the security of the occupancy right puts some of them into new difficulties it will probably release others from difficulties that now lie in their way. On the whole until all the surrounding disadvantages are cleared away, and the people find the opportunity of enjoying the full benefit of the modification, it seems that the amount of the disadvantages resulting from the change would not be greater than the amount of expected advantages. But the benefit of the other point—*depriving the landowners of the right of enhancement* of rent

cannot be made out; indeed, nearly all the above-mentioned difficulties and evils seem to be the result of this cause and not of the other one—the security of occupancy right. At present, by the law the landlords are recognized as the owners or proprietors of the land, and tenants have to pay something to them. This means that in a property two persons have joint interest—the owner and the labourer. As long, therefore, as both have a concurrent right in the farm their joint or co-operative interests will remain alike. The right of permanent tenancy to be given to the tenant is recommended on the ground that a co-operative interest be created for him; but as soon as the right of enhancement of rent is barred for the owner his co-operative interest dies. It is rather a difficult problem to understand that for the sake of improvement an interest is created solely for a class of men who are unable to do anything in that respect, while the interest of the class which is able to do something is killed.

The only capitalists we have in India at present are the large landowners; or we should rather say, in other words, that the only individuals that we have in our society who can be made to work as capitalists are the large landowners. If then, instead of going so far round about to encourage the tenant to make improvements by giving him the right of occupancy, and by providing him with capital for the purpose, and the like; if I say, instead of adopting these difficult and complicated measures the landlords were compelled or encouraged to improve the land and then receive interest on their outlay the result would indeed be much better and more business-like than that of the other plan; and really there would be just as much success in gaining the immediate object in view—the improvement of the soil. In order to produce a greater quantity from a piece of land, the labourer must pay something for the increased outlay; and whether it be called interest or rent it will make no difference to him. How much benefit could not the country expect to gain, and how peacefully could we not hope to see the business go on, if these landowners were forced by law or encouraged by other means, to assume the position of capitalists or agricultural banks, and so provide for the needs of the community. These people are able to do the work on a large scale. Many of them have such ample means that for doing these works they need depend only on their own purses. Only a part of them would be in want of pecuniary help. The means of borrowing money would have to be provided for these only. It would be most prudent to adopt such measures and frame such plans that an owner in need of money could, as far as possible, get it from his own community; or that, failing this, some other institution or banks from which he might seek help should be within his reach. It is clear that the proposed banks could open accounts with these owners of large permanent proprietary rights (who are comparatively very few in number) with far more convenience, economy, greater security, and less trouble than with the petty tenants, 4,700,000 of whom have less than four acres of holding, and, as security, only their tenancy right. This form of transaction, viz., the connection of the banks with the owners of land, making the class (who at present do nothing for the community in return for their share from the product of

labour and land) useful by placing the work of improvement in their hands, seems to be far simpler, far more beneficial and business-like. This plan prevails in England, where the General Land Drainage Improvement, the Land Improvement, or Land Enfranchisement Companies, &c., provide the capital, and, if required, do the work, but, as a rule, on the security of the proprietory right, and not on that of simple tenancy right.

How very injurious the stopping of the co-operative interest of the land owners' class would at once be to the improvement of land.

As soon as they were deprived of the right of enhancement of rent what on earth could induce them to lay out their money in improvements. However the yield of the land might increase it would be no profit to them. Till the end of the existing settlement the tenant would monopolise the whole; and after the next settlement the Government would demand increased revenue. However much or little they now do for improvements, as soon as such a law comes into force they will at once withdraw their hands, and will sit perfectly idle, and content to enjoy themselves on their fixed and unalterable income. This would be a third deduction from the common wealth of the country, besides (1) the interest on foreign capital; (2) the capital of the money lenders becoming unproductive.

The advantages of the agricultural banks would entirely exclude this class, because they would not want money for any improvement, as they could not raise the rent. And if they could raise rents, after improvements, there would be no new benefit from the *law*, because, as far as we can gather the evidences from facts we see that in the majority of cases they do this at present. Firstly, they make wells, dig tanks, make dykes, and then claim increase of rent. They understand their business very well. They do not oust a tenant as long as he simply makes a bare living by the work; and if they do oust a tenant they do it through the fear of his obtaining the occupancy right. There are many exceptions also in this rule.

Now the question is (A) whether they do such works at present or not; (B) how they could be made useful to society and obliged to do this work. We would not say much about these questions, as we have already given more space to this subject in our pages than we had intended to. Moreover, it is quite out of the matter which we have undertaken to prove, to draw up a scheme and show how the work should be done. However, about the first question, we refer to the schedules of such works which, from time to time, are published in the *Government Gazette* of our Province, and also to the facts that are patent in the districts of Oudh, and which have converted tracts of uncultivated land and jungles, into high rent-paying fields.

And as for the second part of the question, we believe that it will be more easy to force or to teach this class of agriculturists, who are few in number, are more sensible, and, for the most part, in easy circumstances, to do the work than to try to carry it out by means of the other class—the poor victims of misery. If by some means these landlords could be brought to the knowledge that their capital, besides increasing their income by purchasing other landed properties (the only

way which they know now of making their capital productive) * can become just as productive by improving the land they already possess; and if, moreover, no hindrance were put in their way to check their investing money in improvements, then their money, which now really lies dormant, would become the country's capital.

There seems no impossibility in their being taught this new and second mode of earning interest; and there is no reason why they should not appreciate it. Let them either lay out their money themselves, and when they have increased the produce of the land, take a share of the profit and call it rent, or let them lend the money to their tenants to enable them to do the improvement, take their share of the profit and call it interest. They should not be allowed to ask a penny of increase from the tenant except on one of these two grounds, and they should not be allowed to oust their tenants.

There is a great comfort in giving a share from the produce of the hard labour of the peasant to the owner if the amount which is paid to them becomes capital for the country. That is, money being accumulated in one man's hands can do much good; whereas, if scattered among a hundred it can neither do good in improvement nor add much to the comfort of the poor labourers. But if no attempt is made to derive benefit from that share of the produce of the land which is paid to the owner, that share will be as if carried into dead account, and will be of no use except simply to make idle a class that might be useful, and to provide it with luxuries.

In attempting to make improvement through the tenants, that is, on a small scale, the slowness of progress, and the relation between that progress and the period of the Government settlement (which is now only 30 years) is a point of no less importance; but we prefer avoiding political points as much as possible, and leave the question as it is. It is not our intention to criticise political proposals, which are the result of long experience and investigation There must be some secrets which it is beyond our knowledge to understand; and there is no doubt that all such proposals are based on no other motives but to give aid to the poor helpless class. Our object in all the foregoing remarks in this chapter is simply this, to show that modification of the law is not enough to improve the material prosperity of the country.

9. Therefore by summing up the main advantages and disadvantages which have been pointed out in these pages, we should see this result:

ADVANTAGES.	DISADVANTAGES.
1.—Creating joint co-operative interest of the tenant in his holding.	1.—Raising enmity with superior landlord.
2.—Providing security for him.	2.—Increasing of complications with the law courts.
3.—Encouraging him to make improvements in his holding.	3.—Acting against the rules of political economy, as for instance checking the freedom of contract
4.—Enabling him to borrow money for improvements.	

* This does not increase the *public* wealth, as one loses what the other gains, but turning their hoardings into capital would do so.

5.—Giving him the monoply of the profit thus made for a certain time.

6.—Saving him from the misery into which competition and rack renting are sinking him down.

in relation of wages and labour, &c.

4.—Reducing a class of people to the choice of either working on mere nominal wages or finding no work

5.—Encouraging improvidence and debt in the people.

6.—Making the tenant subordinate to two masters instead of one.

7.—Stopping the joint co-operative interest of the land-owner in making improvements in land.

8.—Making landowners' capital unproductive.

9.—Stopping the means of improvements being carried out on a large scale.

10.—Creating a very complicated method in borrowing money for improvements by which (A) tenants of small holdings will gain no advantage; (B) the Government will have to intervene in all.

11.—Neglecting the advantages of division of labour, and not making the landlord do something for society.

12.—Trying to settle the terms of contract between the landowner and tenant at a period fixed by a third party, by which either the one or the other will probably suffer, and in the present state of India most probably the poorer of the two will suffer, &c., &c.

As the disadvantages are greater than the advantages, the result of the problem is that, as proposed, it cannot increase the natural prosperity of the country

Further, every branch of the proposal comes finally to rest on the point of capital, so in any case this strengthens our postulate that the first thing which is wanted is capital in the country. But is there capital? No. And why is there no capital? because there is no enterprise.

CHAPTER III.

Encouragement of Commerce.

1.—The proposal is a really successful means if there be capital; without capital it not only proves a failure but injurious. 2.—The nature of trade can be estimated by small proportions of professional, commercial, and industrial classes in the population—sub-divisions of the professional class, the commercial class, the industrial class—quotations from the Census Reports of N.W.P. 3.—The numbers of the above classes compared with those in England. 4.—It is not all that in India the numbers are very small, but the very nature of the individual occupations is miserable—(1) brokers—dallal; (2) shopkeepers; (3) hawkers and pedlars. 5.—The foreign machine-made cheap and fanciful articles have ousted home made, clumsy commodities—grain (or the food) is the current money. For fancy articles people part with their food. 6.—Industrial classes and their income—vide Appendix. 7.—Only four centres of industry in such a large province. Conclusion from the above remarks. 8.—No difficulty of exchanging food with other necessaries of daily life or fancy articles. The more the railroads are extended the more this exchange is stimulated—the more the people part with their food. 9.—It is a pity that India, with such a thick population and the small out-turn from the land should be encouraged to part with her food—the population and produce of India and England compared. 10.—The surplus of agricultural produce which can be exported from India is not enough to stimulate the natural prosperity. 11.—Effect of foreign capital—it leaves only a residue in the country by which the labourers can simply make a bare living; from this residue also a large proportion goes back to industrial countries. 12.—The trade in its present condition has not done any good for the people in India—Their wages are decreased indirectly—on the contrary, the agricultural labourers of those countries which possess capital and energy, are profited by the increase of wealth—the agricultural labourers in England. 13.—Financial statistics of India.

1. This universally acknowledged and really successful means for promoting the prosperity of a country is unanimously recommended in the case of India also. Without doubt commerce is the force by which the prosperity of the people will be elevated if we can only find the power that produces this force. What is that power? Everyone knows that it is "capital." In the absence of capital our commerce, like all other good and beneficial motive powers, such as the help of Government and the modification of law, not only practically proves to be

unsuccessful, but become a source of our thriftlessness and poverty. At first sight it seems rather ridiculous that by encouragement of commerce, by freedom of trade, and by facility in the means of communication and exchange, the blessings of which India was destitute in former times, it seems ridiculous, I say, that India, after obtaining these blessings, not only remains incapable of deriving any benefit from them and from the encouragement of them, but should, instead of rising by them, absolutely sink down. But if we pay attention to the law relating to trade, which is described in one line of the Persian poet Nizami, we see that nothing more remains to be proved, that is—"*Ke zer zer kashad der jahan ganj ganj*," which means "In the world the larger sum of money or treasure has a tendency to attract the smaller sum of its kind to increase its bulk," or, as the vulgar English phrase has it, "money breeds money." When the interchange of trade is open between two countries which are comparatively rich and poor in capital, the current of wealth obeys the same law as that of a stream, that is, all the little shallow springs collect into the large deep basins. Under the same rule the more channels of communication are opened, the greater will be the loss of India with respect to wealth and the necessaries of life.

Further on we are going to prove this by facts, and show that this proposal also is useless in the present condition of India, for gaining the object in view. Firstly, we will try to seek our example in the present condition of our trade; that is, we will consider how far it does good to the country, and what sort of trade we have at our disposal. And secondly we will try to see whether in our present circumstances we can make any improvement or not.

For illustration we take the North West Province again.

2. The circumstances and nature of our trade can be well understood without any further explanation if we only look at the trifling proportions of our professional, commercial, and industrial classes in the population. From the Census Report of 1881, we see that out of a population of more than forty-four millions we have (excluding females) 33·3 per cent. of the males returned with no occupation. This means that every two males in the population have one male dependent on them. Leaving out this unproductive population, which, more or less exists in every country, if we look at the remaining 66·6 per centage of males we find that only 2·5 per cent. of them belong to the professional class. This class, of course, indirectly influences trade. Most of these 2·5 per cent. belong to the Government offices, or are engaged in the defence of the country. Excluding those sub-orders of this class which cannot be said to have direct connection with trade, such as the Government officers, soldiers, priests, musicians and teachers, &c., if we look at the other sub-orders which can be called directly concerned with trade, we find that there are only 7431 lawyers, law stationers, and law-stamp vendors; 237 authors and literary persons; only 228 artists and 522 scientific persons in a population of 44,000,000 of all ages and sexes.

In the commercial class also there are only 2·5 per cent. or 133,882 males. A detail of the orders and sub-orders of this class will be interesting.

Order 1. (vi) Persons who buy or sell, keep, or lend money, houses

or goods of various kinds, Mercantile Men, 91,823, other general dealers, 41,059.

Under the sub-orders of this order of the commercial class, the figures are as follows; the tables with the foot notes are copied from the Census report of the Province.

Merchants	4855
Bank Service	89
Brokers' Agents	13,111
Auctioneers' Agents	12
Commercial Clerks	7963
Money-lenders or Bill Discounters ...	37,900
Money-lenders' Establishments	19,341
Money Changers	7547
Lessees of Markets	1004
Shop-keepers & General Dealers	16,641
Hawkers and Pedlars	24,411

"With reference to these remarks, in order to show clearly the structure of this section of the commercial class, we should omit the clerks, unspecified, and lessees of market from order vi; we should include in one group, as *distributors of produce and manufacturers*, the merchants, agents, auctioneers, commercial clerks, (proper), shop-keepers, hawkers, and throw the remainder dealers in money into one group. We shall then have our mercantile class as follows. Distributors of produce and manufacturers 61,906, and money-lenders, money-changers and bankers 64,877." "This brings out very clearly the important fact that more than half of our mercantile class consists of money-lenders and their subordinates."

Page 107 Census report, N.W. Province of Oudh.

Order 2. (vii) Persons engaged in conveyance of men, animals, goods, or messages.

Carriers on Railways	9066
„ „ Roads	159,527
„ „ Canal and Rivers	21,946
„ engaged in storage	14,739
Messengers and porters...	45,558

Class 5.—The Industrial Class.—The fifth or the *industrial class* numbers 2,429,788 males, equivalent to 15.8 per cent. of the occupied males. Under this class are included six orders as follows:—

1. Persons engaged in arts and mechanics, in which all kinds of materials are used in combination... ...	155,525
2. Persons working and dealing in the textile fabrics and dress	985,226
3. Persons working and dealing in food and drink ...	521,796
4. Persons working and dealing in live stock and products	45,450
5. Persons working and dealing in vegetable substances	215,132
6. Persons working and dealing in minerals ...	...506,659

It is necessary, we believe, to add a brief detail of this division also.

"The most numerous order is the one including workers in textile fabrics, weavers, cloth dealers and tailors, next in rank come the persons dealing in food and drinks, the grain and flour dealers, the sweet-meat sellers, condiment dealers, (pansari), potters, blacksmiths, water carriers,

&c." "Taking the principal sub-orders of each order, we find in sub-order 1, of order x, the following persons classed as workers in books, booksellers 594, bookbinders 424, printers 1656, librarians 8; a poor fraction indeed among a population exceeding 44 millions!"

"In sub-order 7, under the head of philosophical instrument makers are shown 16 males, viz:–15 sellers of spectacles, and one spectacle frame maker." "In sub-order 10, the 186 men shown as tool-makers, are *sangar* or edge-tool sharpeners, the 1200 cutlers, comprise the metal polishers, *sakalgar* and clasp knife makers, &c." "Among the 16,366 workers in chemicals, are included 11,239 manufacturing chemists, this group is made up of salt-petre makers 9513, reh and sajji makers &c." Only 361 dyers and calenderers are shown, these are the men shown in the schedule as calenderers (kundigar), dyers, (rangrez),

"In order xi, textile fabrics, the workers in wool consist principally of 13,570 blanket weavers, (gararya), of the 436,017 males engaged in cotton manufactures 367,774 are weavers, (jolaha), 62,644 cotton cleaners, (dunia), and 3397 cotton spinners." "The workers in dress includes, 172,418 hair dressers, (nai), 84,332 tailors, (darzi), and 43,842 shoe-makers, (mochi or chamar)."

"In these Provinces we have indeed the well defined mountain tract of the Himalyas, but the hill men are almost exclusively agriculturists; the local iron and copper smelting works have almost, if not entirely, disappeared. In Agra, Mattra, Nirzapore, there is some specialisation in stone-cutting industry; with these exceptions, the north Privinces and Oudh consists of a merely uniform tract, washed by rivers of similar character and consequently homogeneous throughout. Hence we have no special industrial centres, developed in the neighbourhood, of places where a special class of raw material can be obtained with facility, with the exception of the stone-cutting industry just noticed, there is hardly a single instance of any important industry localized in any particular place."

3. In the above referred report the numbers of people of different occupations, are compared with the same classes in England. For comparison the occupation tables of the provinces of the North West and Oudh, and of England of 1871, have been reduced to a common basis of 10,000 of population of each sex (Census report of N.W.P. pages 104-114). The table in which the occupations, orders and sub-orders of the different classes are compared is very interesting; but we have no space in our pages to copy the whole, so that the reader might form an opinion therefrom, as to how nominal our trade must be in such scarcity of the commercial and industrial classes. Those who want to see the details can do so on page 123 of the report. However, a few very important orders and sub-orders of the commercial and industrial classes, are shown here as a specimen.

CLASS 3.—COMMERCIAL.

Occupation.	Males, No. per 10,000		Females, No. per 10,000	
	ENGD.	N.W.P.	ENGD.	N.W.P.
Order 6. Persons who buy or sell, keep or lend money, houses, or goods ...	165·5	40·1	5·8	3·4

Occupation.	Males, No. per 10,000		Females, No. per 10,000	
	ENGD.	N.W.P.	ENGD.	N.W.P.
Order 7. Persons engaged in conveyance of men, animals and goods				
Sub-order 1. Carriers on railways	76·5	4·0	0·2	0·0
Sub-order 3. Carriers on canals and rivers ...	29·7	9·6	0·4	0·0
Sub-order 4. Carriers on sea and river ...	127·5	0·0	0·4	0·0
CLASS V.—INDUSTRIAL CLASS.				
Order 10. Persons engaged in arts and mechanical productions				
Sub-order 1. Workers and dealers in books ...	58·0	1·2	8·8	0·0
Sub-order 3. Workers and dealers in printing pictures	5·0	0·0	0·3	0·0
Sub-order 10. Workers and dealers in machines & tools	151·4	0·6	6·2	0·0
Sub-order 14. Workers and dealers in houses and buildings	523·9	56·6	11·9	0·0
Order 11. Persons working and dealing in the textile fabrics and in dress				
Sub-order. Workers and dealers in wool ...	116·6	6·3	106·9	5·0
Order 15. Persons working and dealing in minerals				
Sub-order 8. Workers and dealers in gold and silver	21·1	30·0	3·2	1·0
Sub-order 9. Workers and dealers in copper ...	5·1	0·0	0·1	0·0
Sub-order 10. Workers and dealers in tin... ...	21·0	1·0	2·5	0·0
Sub-order 13. Workers and dealers in brass ...	45·2	12.4	3·8	0·3
Sub-order 14. Workers and dealers in iron and steel	309·2	36·0	15·8	0·1

The general remarks on the comparative tables in the report are as follows. "The garrison of these Provinces for defensive purposes amounts to only 64 men to 85 in England." "In England 34 men live by the law to 3 in these Provinces, not one in 10,000 of our males belong to the literary class, but in England 55 are included in it." "But the most important contrasts are in the commercial and industrial classes; in England 3,955 men in every 10,000 are included in these classes; while in this country the number is 1,227, the difference arising of course, from the fact that 4,586 in 10,000 of the natives of these Provinces, are employed in agriculture, while in England the proportion

is only 1242." According to the last Census returns of England, that of 1881, table 4 of occupations, volume 3, page 6, and the above mentioned Census of N.W.P, India, the numbers under the important heads, Professional, Domestic, Commercial, Industrial and Agricultural, stand thus.

	Total population.	Professional.	Domestic.
N.W.P., India,	44,107,869	444,077	169,590
England & Wales,	25,974,439	647,075	1,803,810
	Commercial.	Industrial.	Agricultural.
N.W.P., India,	399,250	4,429,874	15,124,922
England & Wales,	980,128	6,373,367	1,383,184

4. This is not all, we have shown the extraordinary small proportion of the commercial and industrial professions in a population nearly double that of England, in the Province of India which is, in every respect, considered the heart of the country, the one which was for thousands of years the seat of the Hindoo gods and powerful rajahs, such as Rama and Kirishna, Pithowra or Prithe Raj, &c., and was the seat of the Mohamedan kings and emperors of the Gazni Gori, Toglock, Syed, Lodhia, and Mogul dynasties*; the country which has always been considered the seat of oriental literature and science, the centre of all industry and arts, fashion and invention, and was the place for manufacture and commerce, and which, at this day, unquestionably stands first in many of the above respects. The N.W. Province lies in a very fertile and well watered plain of richest soil, bounded and intersected by the Himalaya and Vindia Mountains, it is more thickly populated than any other part of the country. The people are naturally strong, courageous and intelligent; the native army is largely composed of them. From this example the condition of the trade of other parts of the country may be estimated. Yet a fact even more important to bear in mind than the mere proportion of numbers is this: that even these small numbers in India comprise occupations of a kind that in England would hardly be called commercial or industrial. For instance to a foreigner, or to those people who do not know what India really is, 444,000 people in the professional class will not look bad; but when they know that 117,000 of these numbers are chawkidar village messengers and watchmen, whose pay is from 10/- to at most £3 a year, (inclusive), and patwaris village clerks, whose pay is from £1 to £8 a year, then really they will understand what professions are in India. In 444,000 we have only 18 authors and editors, and only 206 painters.

It would be very interesting to draw an outline of the work and of the income of all the orders and sub-orders of the above numbers; but as these classes, professional and domestic, do not come directly within the scope of the subject of this chapter, therefore we think it out of place to go through the details Moreover we are afraid that a full account of the orders and sub-orders of the industrial and commercial classes also, though they come directly under our heading, would excessively enlarge the work. However, in order that the reader

* In Agra and a few miles off in the Delhi which is now included in the Province of the Panjob.

may know the real nature of the trades, we must give one or two examples of the business of our commercial and industrial classes. For instance, under the commercial class, in which 132,882 males are shown, large numbers are returned under the following heads. (1) Brokers 13,111, these are called dallal. The occupation of these people is well known to every one who only once in his life has had an occasion to shop in an Indian town market. The greatest nuisances and the greatest rogues that we have are these dallals. This word dallal being of universal hatred, has become an adjective which is applied to signify the character of a person who does nothing but make his living by cheating and deceiving other persons. It is not an exaggeration, but a fact, that, when one goes to a market to buy a shilling's worth of calico, or a pair of common shoes for a shilling, two or three, and sometimes more, of these dallals will follow him, and try their best to deceive the purchaser in making the bargain. It also should be borne in mind, that in India, time is not so valuable as in England, and that in buying or selling men are not afraid of wasting time in making a bargain. It is not extraordinary for a man to spend an hour in buying a shilling's worth of calico, after seeing and entering about a dozen shops ; and the dallals would not leave him if the purchaser remained a whole day in running from one end of the market to the other. One of them at least will remain with him if the others leave, and all of them will take their share of the commission, (even were it only a ½d.,) which the shop-keeper gives them after the bargain is settled. If the purchaser is too particular, and will not easily buy any thing, or avoids their company, after showing him every shop, they will leave him alone; but if he buys the article from any of the shops on the same day, or on some other subsequent day, the shop-keeper will not sell it without adding the commission of the dallals. The rate of commission differs in every town, and in every market, and is quite a private thing, which is known only by the shop-keeper and the dallals. It is usually about a ½d. in the shilling; but if the purchaser is simple and inexperienced, they cheat him as much as they can, often a purchaser buys a 6d. or even a 4d. article for 1/- and the balance is divided between the shop-keeper and the dallals. In the course of business they speak their own slang, which the purchaser cannot understand. In the purchase of valuable goods, such as silk, embroidery, and jewellery, no end of these dallals will accompany the purchaser. In Benares I have seen as many as 25 taking their share of the commission on a piece of embroidery cloth purchased by a gentleman ! and they say that there was a time in Benares, that out of 16 annas, (1 rupee) 10 annas were taken by the dallals, and 6 annas covered the value of the thing purchased and the profit of the seller. One fact about them is worth mentioning, that they were not so numerous in former times, as they are now. But it must not be thought that their number is increased by increase of trade. According to the social rules of the Agarwallas and Khetris, who form the mercantile castes, they are supposed to be bound to help their caste people. Formerly, in very remote periods, in case of the bankruptcy or failure in business of one of their members, they were bound to start him again by contributing a fund for him, and to give to the members of their caste incapable of doing

business a share of their own profit in the shape of commission. Although this is the origin of the custom, yet up to this time they feel themselves socially bound not to refuse any one belonging to their castes a share of the commission which is called dallali. By the increase of population and failures in business, all the bankrupts in the commercial line, when they find no other means to live upon, turn dallal. This is the reason that their number is very much increased and is increasing every day. As the tenants in the agricultural line, who by dividing the land among themselves, as has been explained in the fore-going chapter, have no longer more than enough to keep their existence; so in the commercial line, the number of these dallals increasing and business decreasing, all of them have to share the margin of profit called dallali among them, and are consequently reduced to living from hand to mouth, and have no means to earn more except by more cheating. Those who have seen Indian markets know very well what those broker dallals are. People of all ages from 14 to 70 are seen in the class, and many of them will be seen in rags, and shoeless.

Our reason for giving the above remarks is this: that by the word broker, it should not be considered that they are anything like the brokers in England, and that the amount of our trade should not be estimated by their numbers. They are nothing but a pest in the country and have nothing to do with what we should call trade.

These dallals are found in many trades, in the law, in the country markets, among weavers, and are most numerous in the sacred places of the Hindoos. In different businesses they are known by different names To give a full history of all the classes of dallals is unnecessary here.

(2) In the same class, (commercial) 16,641 shopkeepers are shown, but what these shopkeepers are generally, it is very difficult to explain. Those who have travelled in the country, know well what commodities can be obtained in these shops. We have shown above, that on the whole only 10 per cent. of the population in the Province is urban; therefore the above number of shopkeepers includes so few town shopkeepers, that they hardly can be taken into consideration. The majority of them are those people who keep shops in villages and country bazaars, and three-fourths of these sell nothing else but parched grain, salt, cane sugar, rice and coarse grain, meal, and some other little odd things. They deal chiefly in the produce of their own country. For a further description see Appendix No. 1 under the head of tradesmen. A short account of the important class of shopkeepers, of their trades, and of their income, will be seen in the Appendix.

N.B.—The Appendix No. 1, Part II., which contains a short account of the life and income of the people, of nearly all occupations and businesses in the Province was written by me in 1875.

I do not think it necessary to give a description of the same here; but, by reading the Appendix above referred to, the reader will understand the nature of our trades well.

(3) In the commercial class in question we see a large proportion of hawkers and pedlars, there being no less than 24,418 in number. This total includes Khoncha-wala of the towns, *i.e.* sweetmeat sellers, sellers of vegetables, and other petty dealers, and most of the Bhounri-kerne-

wala of the country, who, owing to the scarcity of shops and markets in the country, carry salt, tobacco, and raw sugar on their backs or on a pony, and exchange these things in the country for grain. A few carry cloth, brass utensils and brass ornaments in the same manner, and exchange them for the broken utensils of the same kind.

5. There is one thing worth mentioning and remembering in this place, that formerly the country shopkeepers and hawkers used to sell almost exclusively things which were produced in the country. The articles were clumsy, dear, and not so numerous as now. But with the increase of railways and other means of communication, the cheap and imposing-looking foreign articles are increasing, and taking the place of home-made articles in the bags of the hawkers, and these are spread in the country much more than formerly. I remember that some 20 years ago, on my igniting a match in a village the people considered it one of the wonders of the world, and now I see in the house of almost every *large* farmer a box of matches kept carefully in case perhaps it may be required one night owing to some accident. Needles, thread, nails, machine-made knives, scissors, boxes of different kinds, pencils, pens, French-made fancy things in large quantities; toys, such as bangles, marbles, &c., &c., though not required by their necessities, yet, being very cheap, as worth only a farthing or a half-penny, and being curious to them, have a great attraction and temptation to make the people part with their very food; that is, they give grain in exchange for them. This also should be remembered, that among the 60 per cent. of country people to whom we always refer for the sake of example in this work, grain is, in many transactions, the current money. Whatever they buy less than 3d. in value they buy directly with grain; and for articles of more value, such as brass utensils, Manchester printed calico, &c., worth, perhaps, 2s. or 3s., they will first exchange the grain for money, and will then give the cash for the thing. If they buy luxuries for themselves, as salt, tobacco, vegetables, &c., they have to pay for it out of the surplus of their food; or, if they buy something more valuable they have to part with the same article of food. In the months of harvest the markets are more flourishing than in the other months, and many of the more improvidents (not thinking of the morrow) satisfy their curiosity and luxury at the cost of their food, and thus fall victims into the hands of the grain dealers, who support them when their own food is exhausted, and make them pay interest at 50 per cent. on the grain lent for their support. (A full account of the transactions by which the grain dealers support the people and charge 50 per cent. interest, will be given in the 4th chapter).

We do not think it necessary to give a description of all the orders and sub-orders of the commercial class that we have mentioned in the foregoing pages of this chapter, though it would be interesting enough. We have, however, no time for this, therefore we leave the second order, that of persons engaged in carrying men, animals, &c. This order includes our Kahars, the palanqueen bearers, and the large number of *Bardhia*, the people who carry grain to country markets either on their own backs or on the backs of oxen and ponies. This is the largest means of traffic that we have; and to know the nature of their occupa-

tion, the amount of grain they carry, would be very interesting, but we cannot prolong these remarks. Readers can form an idea by reading the Census Report, also *vide* Appendix (Part II.) under tradesmen.

6. After this we proceed to the industrial class, which contain 15·8 per cent. of the population, or 2,429,788 males, and write a few words to give the reader a correct notion as to what this class is composed of. The passages from the Census Report, which give some account of the sub-orders, have also been quoted, but as the report is not meant to give a full history of the business and income of the people, and accordingly they are insufficient to explain to the reader, who does not know India, what the real nature of our industry is. An Englishman should not form his idea of our workmen in textile fibre from the men in Manchester engaged in spinning and calico-printing factories; of our workers in wool by the men in the factories of the Western Counties of England (such as Stroud in Gloucestershire); of our tool makers by the people in Sheffield and Birmingham; or of our workers in chemicals by the men engaged in the works of the same name in the Northern towns of England, such as Manchester and St. Helens. Nor can we explain much about them here, but we refer him to the Appendix, where a short account will be found. In a general sense the people in question in condition of life are just the same as the people of the agricultural class. The industry is not fit for any foreign market; even with a bare living the workers can hardly compete with foreign machine-made goods; consequently industry is in a very decreasing state. There is no diversity of occupation, no division of labour. For instance, the same man who cuts the wood, brings it home, saws it, makes a clumsy sort of wheel from it, and takes it himself to some town to sell it for a country cart. On an average the income of these industrial people in the country is not more than 2d. or 3d. a day per head, and of the men in the sub-order of workers in textile fibre, the cotton and blanket weavers, and the workers in chemicals, the salt petre makers, even less than this. For further particulars of the class in question, as detailed in page 50 and 51 of this book, see the Appendix, where they are arranged as follows:—

Cotton Weavers under Jolaha.
Tailors under Darzi.
Sweetmeat Makers under Halwai.
Condiment Dealers under Pansari.
Dyers under Rangraze.
Cotton Cleaners under Dhonya or Behna.
Shoemakers under Chamar.
Potters under Komhar.
Blacksmiths under Lohar.
Workers in chemicals and salt petre makers under Lonya.
Water Carriers under Kahar.
Blanket Weavers under Gararya.
Hairdressers under Nai.

7. In the report of the Department of Agriculture and Commerce of the Province for 1882, page 9, a list of 16 manufacturing towns is given, such as Mizapore, Marolabad, Lucknow, &c.; but except of brass ware of Mathra and Mirzapoor, inlaid ware of Morodabad, silver and

embroidery work of Lucknow, carved work of Nagina, and scent of Jounpore, hardly any other manufactures go out of their native district. Further, many of these things are somewhat fancy articles, and not goods required for the necessaries of ordinary life. Throughout the Province, with a population of 44 millions, there are only four places the manufactures of which take a place by the side of foreign-made things. These manufactures are necessaries of life, and are found in the markets of other towns also in India, besides the places where they are made; but they have no value whatever in foreign countries. They are (1) silk, plain and embroidered, of Benares; (2) Leather work of Cawnpore; (3) Carpets of Mirzapore; and (4) last, furniture of Barelly. Lastly the chased brass ware of Benares and inlaid ware of Moradabad go as fancy goods to foreign countries in small quantities, but by the side of the fancy goods of those countries they command no attention. As it is only their novelty, and not their usefulness that tempts the purchasers to have them, as soon as the novelty is worn out, the little demand which they have will also die.

Now from the above remarks we believe that the true features of our present trade can be perfectly understood. It is seen that with reference to commerce, we have nothing to exchange but the raw materials that we produce from our land, or, in other words, the first necessaries of lite, viz., food; and from our own industry and manufacture we have neither foreign, nor even much inland trade. To corroborate this statement we find a paragraph in the F.C.R., part 11, page 97, "Out of a total recorded export of 58¾ millions in 1878-9 only 6½ per cent. represent the value of what can properly be called manufactured goods 93½ per cent. being raw produce.

8. As many wealthy and manufacturing countries depend on us for their food and raw materials, we have no difficulty in exchanging our produce for silver, which is a necessity for paying revenue and rent. Moreover, we are tempted to purchase the cheap articles of fancy, dress, &c., which, by the increase of railways and means of commnication, are now seen in every village market. We have, then, no difficulty in exchanging our land produce either for silver to pay the rent and revenue, or for boxes of matches or bunches of glass beads to satisfy our fancy. The more the means of communication are facilitated, the more rapid becomes the circulation of our imports, which consist of articles of fancy or of bodily comfort, and of our exports which are nothing else but articles of the first necessity of life. The consequence of this is that our home industry is in the same proportion dying away. Our coarse but long-lasting home-dyed Pheryas (a piece of cloth by which a country woman covers her body) is changed for the more gaudy but less durable Manchester printed *sari* or American dyed cloth, which is becoming cheaper, and consequently at the same proportion our food is becoming dearer. It is a fact that requires no arguments. It is proved by the evidence of all official records of the financial budgets of the country, of the writings of hundreds of politicians. For instance, in the Financial Reform Almanack for 1883, page 169, we see the following remarks:—"The poverty of the Indian people is almost beyond the realisation of English imagination, as it is

certainly outside the realm of British experience." "One-fifth of the people in British India, that is 40 millions, go through life on insufficient food." "From the special returns prepared by the Madras Board of Revenue for the Famine Commission it will be seen that from 1814 to 1874 the cost of second sort rice has doubled." "That is, while in England the process of the law has had the effect of reducing the price of the staple article of food, and making it cheap and plentiful for every one, the exactly opposite principle has prevailed in India." "This statement is as true of the dry grain food, *i.e.*, millet and the like, as of the 'wet,' viz., rice. Ragy, a species of dry grain during the period mentioned has doubled in price, the number of seers per rupee being, in some cases, 52·6 in 1819-23, against 35·4 in 1870-74. . . "Again, testing this by an English standard, it is as though the 4 lb. loaf in England had gone up from 6d. to 2s. on exceptional occasions, and had permanently increased to 1s. without corresponding advantages to the purchaser in the way of larger means of earning money. Indeed when the prices have been at their highest range, the opportunities of earning money have been the fewest."

The Government statistics of the cost of food to the native army establishes the fact of a great increase in price. The average monthly consumption of food by a sepoy, and its price in 1848 and 1875 respectively were found to be as follows :—

	1848	1875
30 seers, 60 lbs. flour ...	Rs. 1 0 0	Rs. 2 0 0
3¾ seers dal	Rs. 0 3 0	Rs. 0 5 0
1 fifteen-sixteenths ghee	Rs. 0 7 0	Rs. 1 2 0
Sugar and Salt	Rs. 0 4 0	Rs. 0 9 0
Firewood	Rs. 0 4 0	Rs. 0 10 0
Tobacco	Rs. 0 2 0	Rs. 0 6 0
Total	2 4 0	5 8 0

Now can it be said that this trade, or any further encouragement of this sort of trade, could be beneficial to the country? Simply common sense will tell us that it could not be so.

9. It is a pity that our well wishers, without considering the circumstances of the people and the density of the population, conclude that the encouragement of trade (in its present state), and increasing the means of communication will do good for India. They ought to consider that England, with a population of only 390 * per square mile, cannot produce enough for the consumption of its people, and has to depend upon the produce of other countries. In 1882 of wheat alone (omitting grain of all other kinds and meat) no less than 64,171,622 cwts. were imported from other countries into England, and of these 8,477,479 cwts. came from India.—*Journal of Royal Agricultural Society*, 1883, page xix.; while India, with a population of 416 * per square mile, is expected to enlarge her trade by exchanging her food for mere fancy articles and luxuries. We should go further in detail on this point, and contrast briefly the agricultural condition of both countries.

* N. W. P. Census Report, page 135.

According to the Census Report, the North Western Province (which we have taken for our illustration) contains a cultivated area of 540,420 square miles, which is equal to 34,586,880 acres; and the population being 44,107,869, the average cultivated area per head is ·78 (Form xxi., page 2). The cultivated area of the United Kingdom is 50,432,988, and the population is 35,278,999 (the Financial Reform Almanack, 1883, pages 76 and 135), or 1·42 acre per head. Now, with all her improved and scientific agriculture, with the outlay of large capital, with artificial manures and the aid of machinery, with an average yield of 30 bushels per acre England cannot support her people; yet India, with her miserable modes of farming, with such insignificant farms and implements, with a scarcity of manure and means of irrigation, with an average yield of only 13 bushels (as per Famine Report) or 18·7 bushels (per "Oudh Gazetteer") per acre, is expected to prosper by her trade, viz., exportation of grain and by the increase of the means of communication. The result of this trade is that when a bad year comes, or if in any year there is a falling off in the quantity of rain-fall, famine threatens the country, thousands of people helplessly die, and the whole affairs of the country are disturbed. In ordinary seasons, during four months of the year, May, June, December, and January, the lower class of peasants support their existence by living on wild herbs and wild grass seeds, the Mango and Mohwa fruit, or taking loans of grain from grain dealers. For further particulars see Appendix under Agriculturist, also Famine and Relief Work in Oudh and North West Province by the Author.

10. According to the Famine Commission Report (part 1, page 50) in a season favourable throughout India, that is, if there be no local requirements in any part of the country owing to famine or a bad year, India has a surplus of 50,000,000 tons of grain for exportation from her produce. To make up this amount Bengal is estimated to contribute the largest quantity, *i.e.* 1,200,000 tons, and the other eight Provinces an average of less than 300,000 tons. Of these our Province (N.W.P., which is taken for our example) can send from its produce, after the consumption of its population, 660,000 tons. Now we can calculate how much the Province could enrich its population simply by exporting its surplus food. It has been proved above that the Province has nothing from its manufactory and industry to send abroad; and, as a matter of fact, besides a little opium and indigo, it does not grow any more valuable thing, such as tea, coffee, or even cotton to such an extent that the produce need be taken into consideration. After all, then, there is nothing else left but grain for our trade. Now, for the sake of example, suppose that the Province yields, in an average year, a surplus of 660,000 tons, and that there is no increase of population to affect the surplus quantity, and that the whole quantity consists exclusively of wheat, and that it is sent to the market of extreme profit, say to London. Suppose further that our wheat is, in quality and in price equal to the American and Russian wheat in the market, and that the demand for and the price of wheat (which has an inclination to fall) also remained as it is at present, and let the rate of exchange be taken as not worth considering, then I say, under all these favourable circumstances, our 660,000 tons of wheat, which are equal to 1478,400,000 lbs., at the present average rate

of (round number), (a) 27 Rs.=45s. 1d. per quarter (or 500 lbs.), (b) would be worth in round numbers 79,900,000 Rs. (c) Excluding all other charges such as commissions on both sides, local freight, &c. the mere carriage of this quantity from India at the rate of 40s. or 24 Rs. per 2000 lbs. (d) amounts to Rs. 17,740,800. Now after deducting this sum from the total value of the wheat, our net income is 62,159,200. The population being 44,107,869, therefore income from this trade per head per annum including cost and profit, is, at most, 1 rupee and 7 annas=2s. 4d.

N.B.—The question of the charges of local carriages need a full discussion in two respects :—

(1) The heavy rate, which is fully treated by Major Baring in his resolution, in which he proves that carrying 1 ton of wheat for 600 miles costs in India as much as it costs in America for carrying the same quantity more than 1000 miles, &c.

(2) Owing to the railways being made with foreign capital our country derives very little benefit from what we pay for carriage. But we have no time to say anything about this here.

The reader should judge for himself, and consider whether this sort of trade has a tendency to increase the material prosperity or to cause the underfeeding of the people.

11. We next proceed to consider the effect of the foreign capital on our trade, and decide how far it is beneficial to the country, and what portion from that actually remains in the country.

In the Famine Commission Report, part II., page 94, we see the following remarks :—"The excess of the value of export over import indicates the entire sum which India has to send to England to pay for all the charges connected with the administration, the interest on English capital invested in India, and the profits of private trade and savings from salaries remitted by Englishmen, *minus* the new capital sent out from year to year for investment in the country." "So far as the excess of export is due to the investment of English capital in India, it is difficult to conceive the conditions under which the remittance of interest on foreign capital judiciously applied could be onerous to the country which pays it, for the investment must necessarily have led to the outlay of a larger sum than the interest sent away, and the balance which is thus produced remains in the country." "Thus in the case of guaranteed railways, almost 100 millions of capital have been raised and spent in India, and about 5 millions a year have to be paid in England as interest on that capital." "The railways pay those 5 millions by earning a gross income of 10 millions, five of which are spent in wages, and afford occupation to the people of the country." "The people who voluntarily pay the 10 millions for the use of the railways are themselves largely benefited by them, and would have had to pay much

(a) *Royal Agricultural Journal of* 1883, table xii. (b) Standard weight of bushel varies from 62 to 80 lbs. : the London standard is 62 lbs. : a quarter=8 bushels or about 500 lbs. (c) 1 Rupee=1s. 8d. (d) *Journal of Royal Agricultural Society* of 1878, page 280=14 :—"The cost of transporting (wheat) a quantity equal to the produce of an acre=4 quarters or 32 bushels, or 2000 lbs. to England is seldom less and often more than 40s. (24 Rupees."

more had they been obliged to use ruder means of conveyance. The remittance of 5 millions of interest to England therefore indicates the investment of a sum of money in India, which, in numerous ways has conferred both direct and indirect benefit on the country." We are not prepared to criticise the above remarks, because we are afraid that their being the result of thorough investigation and long experience, might be based on some secrets that we are unable to understand. Moreover, it is quite plain that in the absence of native capital had there not been the foreign capital invested, India would still have remained in the same crude state as it was a hundred years ago We should neither have had railroads or canals, nor tea or coffee plantations. The large area which we have now assigned indigo plantation would have still remained under the ordinary cereal crops—the grain for food. The houses of our rich landowners in every nook and corner of India would have been destitute of even the few articles of decoration of which they boast at present, such as chandeliers, mirrors, lamps, drapery, pictures, &c. Our middle-class people in the same place would not have abandoned their home-made copper plates, and would never have adopted china ware in their place. The cashmeres, home-dyed and printed chintz of their coats would never have been changed for cheap fine broadcloth and tweeds. They would not have found means to purchase patent leather boots. In short, the people of the above classes would mostly have remained in possession of the old hand-made clumsy articles of all kinds, and would not have half so many as they have now.

All our poor classes would have still spun thread for their covering, because, however cheap the things are, it is beyond their power to purchase them. Our weavers would have woven the cloth, dyers and printers would have made the cloth after the pattern of their fancy. For a box of goods to be fetched from Calcutta to Cawnpore we should still have been obliged to pay the bullock cart men or our boat men, for carriage, nearly half as much as the value of the goods, as we had to pay 50 years ago ; and it would have reached Cawnpore in two months' time. Our own Mahajans would have insured it at a very high commission and so forth. By the outlay of foreign capital in India, and by the increase of communications, we have gained the advantages of obtaining the commodities of life very cheap and plentiful in every corner of India; and the more these means of prosperity increase the more the people will find them very handy ; but no doubt this expenditure replaces that which formerly passed from one hand into another in the country, and had no tendency to run out of India.

N.B.—At present, besides the grain and meat or vegetables which they consume from the produce of the country, nine-tenths of all the necessaries of life which the urban people, and half of the necessaries which the rural people of the above classes use are manufactured in foreign countries, and are neater, cheaper, and more decent than the things for which they are substituted.

Also there is no doubt that a portion of the capital which is paid in wages as stated in the above quotation from the Famine Report, is spent in the country. For instance, in making and working State Railways, although a large share of that also is taken in high wages by

the officers of higher rank, the guards, the drivers, the plate layers, the contractors, the superintendents, the clerks, &c, most of whom are foreigners, yet a residue is still left for the native common labourers. At any rate, from the amount of wages, as much as is necessary for living is spent in the country by all, whether foreign highly-paid servants or the native common labourers. But after all this the questions are—(1) Whether the portion of the profit of the foreign capital spent in India remains in the country or not? (2) Whether the trade in its present condition, that is with the investment of foreign capital, and our exports being hardly anything else but the produce of the land, has improved *the material prosperity of the country*—India—or of the country to which the capital belongs.

As for the first question it is a patent fact, and needs no explanation, that as much as is necessary for keeping our existence, whether with dry coarse bread of millet meal, or with the luxurious dinner of five courses, either by low, middle, or high classes of natives or by foreigners, this, of course, remains in the country. Further, the surplus of the individual unproductive wealth, which is locked up in boxes or buried in the ground, also remains in the country. Besides these, whatever is spent on other things, be it a penny or a pound, whether it passes through one or two or ten or twelve hands, at least nine-tenths from the towns and one half from the country go to the foreign countries to employ their labourers in productive works, in making articles of fancy or comfort for us. For example, of the wages that are given by the State Railway to a signal watchman or a ticket collector, or of the pay which is given by an English officer to any of his domestic servants, say a tailor, only as much as he spends in eating (which is not much) is of profit to the country, that is he employs labour to produce food for him. Besides this the other things which he is in want of, and on which he spends anything of his wages, are almost all made outside the country. To make this more clear we give an illustration. Say the signal man who receives 8 or 10 Rs. per mensem, spends three-quarters of it in food for himself and his family, and the remaining 2 Rs. per month he spends in odd things, such as a sheet of paper and an envelope for writing a letter, a pen knife to make a pen, two yards of linen for his coat, a needle and thread to sew it, a box of matches to light his lamp (chirag), a box of blacking. None of these things are home-made Further, he wants a bed to sleep on for which he employs a carpenter, and pays 4 annas (quarter of a rupee) per day. The carpenter receives his wages, and out of this spends only as much as he eats to the advantage of the country. He equally spends the rest in purchasing tools and all other foreign things. Now, by the foregoing remarks it can be clearly understood that with foreign capital nearly all that is spent in the country leaves India, and goes to the conntries which are rich in capital. But here one would think that this is not against the law of the world, and there is no difference in either case. The people of the country where the capital is do not eat twice as much as their appetite requires, nor do they sleep on two beds. They, in reality, also spend only as much as is necessary for maintaining their existence. If there is any difference it is this, that we produce for them food while they make for us cloth,

needles, thread, tools, paper, &c.; and, by the exchange of the products of the two countries and by spending the foreign capital in India, not only the signal man but the carpenter, the dealers in tools, cloth, paper, &c., all make their livings. And so they do, but there is one great *point* to be considered, which is the end of all the theories and laws of Political Economy, the end of all the politics in the world, and the aim of this book, viz., what sort of living they make, whether anything has been added to their comfort, whether the material prosperity has increased to some extent; and whether we can hope that by enlarging the means it will increase further still. But when we carefully pay attention to this point we arrive at the conclusion that in India the case is quite the reverse. On the other hand the countries which do not part with their food, and make their living by their industry, diversity of occupation, and the division of labour, and the possession of capital; either they apply their capital in their own country, or they lend to India or other countries; the increase of these two important wealth-producing factors, viz., energy and capital, betters the condition of life of their own people.

We believe that we have proved in the foregoing pages that the condition of our people is not improving, and is rather going down; and further, we will speak about this in the answer to the second question which has yet to be decided, viz.: (2) Whether the trade in its present condition has improved the material prosperity of India, or of the country to which the capital belongs.

12. For estimating the material prosperity of the country, leaving aside the aid of arguments and logic, we have a very authentic and accurate natural *meter*, and here we test the fact by applying it. The *meter* is the *rate of the wages*. For the test of the subject in question we here also take the agricultural labour, as we have chosen this great factor of producing wealth in our country as a standard throughout the work. First, in the case of India we see that the wages of our agricultural labourers, indirectly if not directly, have very much decreased. We mean that, although they still receive the same wages for their daily work as they used to receive 20 years ago, *i.e.*, about 4 lbs. of grain for 12 hours' work, yet they have lost many perquisites that they enjoyed in former days. Some of the most important of them were the following: 1. Large grazing commons which enabled them to keep cows and goats in much larger numbers than at present. 2. The large fruit orchards which were entirely at their disposal, which are considerably reduced now, and to which at present the owners do not allow them free access. 3. Making salt and spirit for themselves which they now have to buy with the grain that they receive as wages. 4. The wild fruits and the fuel that they used to bring from the bushes, which were abundant in every village. 5. The wood for beams and rafters and the straw for thatching their huts which they used to receive from their masters. 6. The hides of the dead cattle which now almost all the masters take themselves. 7. The large pieces of waste land which they used to attach to their huts, and on which they cultivated green vegetable for themselves; such land is now very much reduced or is entirely absorbed in fields. 8. The whey (*matha*) being abundant, used to be given to

them by the masters, who now have scarcely more than they need themselves. 9. The privilege of permanency of labour. As the labourers were not so many as now, their masters were obliged to support them all the year round in order that they might have them at hand when wanted; but now the number of labourers being considerably increased there is no such fear, and most of them have turned mere daily labourers, who are employed when there is work and left to starve when their labour is not wanted. 10. The most valuable and durable perquisite which they have lost was this, that it was not at all uncommon that for long and good services they received from their masters pieces of land for planting one or two mango trees, of which they enjoyed possession as long as the trees stood. Now, owing to the land being more valuable, is never given to them. 11. Pieces of land which they received for *beggar* work, *i.e.* extraordinary services rendered gratis to Government or landlord, are not given to them now; but by the long established custom they are still considered bound to do such services.

Our agricultural labourers have lost all these sources of indirect income, but of course there is no decrease in the standard amount of daily wage, which is 4 lbs. of grain per day. Perhaps it will be said that as grain has nearly doubled in price it should be considered that their wages are doubled indirectly, too. But the reader should think (a) that as long as they have to consume nearly all the grain themselves it will make no difference to them if each grain became as valuable as a pearl. For the little savings out of which they buy odd things, as American cloth, &c., they receive more than formerly, but firstly this advantage is infinitesimally small, and secondly, even this makesvery little difference, because the machine-made things which they getcheaply are not half so durable as the hand-made ones. And all the hand and home-made articles have increased in price with food, *i.e.* they are not so cheap as they were before. (b) For wages no wheat or rice or other valnable grain which have risen in price are given, but they are infact paid in grain which have not really risen in price. They commonly receive sorts of grain which are rather grass seeds than grain—Sawan, Makra, Kodon, Kakoon*=(Pannecum Italicum); these are particularly cultivated for paying as wages. They are consumed by no other people but the labourers; hence never go out of the village market, and therefore there is not much variation in price. (c) When they are employed for other work by people who are not farmers they are paid in cash at an average rate of 1 anna=1½d. per head per day, which has been the same for almost 20 years. From all these facts we can say that the wages of our labourers, instead of increasing, have materially decreased. Therefore the trade has not been beneficial to the material prosperity of the country. We find evidences of this fact in many works and records connected with politics, for instance in the Financial Reform Almanack, 1883, page 168—"The increase above shown (in the exports of India) is not wholly a gain for India. Increased Indian export trade does not mean for the people of India the same thing as

* See in Chapter IV.—Sometimes barley, millet, and pulse, or Mahwa (fruit) is also given.

increased English exports mean for the people of England. The profits made in manufactories and by capitalists in this country swell the value of England's wealth. In India export trade is almost entirely in the hands of foreigners, who spend only a portion of their profits in the land wherein those profits are attained; they send the larger part to England. In spite of her growing trade India is becoming poorer every year, not richer." Page 169—"While the price of food has thus enormously increased wages have not risen."

Now, to prove the above remarks we should apply the same test in case of a country which has the blessing of energy and of capital of its own, and see the effect of it on the same class—the agricultural labourers. We should take the United Kingdom, as it has close connection with us, and has the largest interchange of trade with India. The accuracy of the test is well proven when we see well-marked distinction between the circumstances of the people of the different parts of this kingdom. It is plainly visible that even in this country, in proportion of the energy and capital, there is the demand for labour and the difference between the condition of the class in question. First we should give a glance at Ireland, which is in the United Kingdom. We see that although the country has the same climate, the same sort of soil, the same minerals (or is near enough to obtain the minerals easily) as England; though the people are physically and intellectually of the same type as the English. The education of the masses, though not compulsory, is yet such that every labourer can read and write, and knows as much politics as his fellow workman in England. Though the climate produces good soldiers, the University great men of letters and statesmen who are by no means inferior to their neighbours, yet the Irish have not an equal amount of energy or capital, and the consequence is that all their natural gifts and accomplishments are not of much use. In every respect Ireland is far behind from the point of what is called prosperity. Comparatively speaking, it has no trade of any kind, no manufactures,* not many railroads in the interior of the country, no advancement in agriculture, no drainage, no good fencing. no large farms in many of the counties; and I have seen peasants and labourers in the counties of Mayo, Galway, and Sligo living in cottages far worse than an English pig-stye. In respect of the condition of the poorer classes Scotland stands between *England* and *Ireland*, and for the same reason, *i.e. the proportion of capital and energy*. England having the advantage of being the centre of energy, wealth, and civilization, her people are more fortunately circumstanced than any other people in Europe.

Now we should say a few words about the agricultural labourers of England, and instead of giving our own opinion it is better to quote the opinions of the best authorities. Sir James Caird writes, "The general condition of the agricultural labourer was probably never better than it

* The trade and manufacture of beer and spirits in the country, or some other special thing in particular places, such as linen in Belfast, or cattle and butter in Cork are comparatively so small that they are hardly worth noticing in the United Kingdom. Though in India it would seem very valuable.

is at present." . . . In 1846, immediately before the repeal of the Corn Laws, wages were 1s. 7d., when wheat was 53s. At the present day wages have risen 60 per cent., while wheat has not increased in price. In other words, the labourer's earning power in procuring the staff of life, costs him five days work to pay for a bushel of wheat in 1770, four days in 1843, and two and-a-half days in 1870. He is better lodged than he ever was before, though in many parts of the country there is still much room for improvement in that respect. (*J. R. A.* see page 302-36.)

Mr. H. J. Little of Coldham Hall writes : " The twenty years which followed Mr. Caird's enquiry, in 1850, were distinguished beyond any similar period in the history of the country by the growth of wealth and manufactures. The railway system, which now covers the whole kingdom as with a net work, was, at the end of that period, all but complete, It will, therefore, be interesting to see how far the labourer has benefited in actual wages by this vast extension of commerce. . . . . " In the Fen districts of Cambridgeshire and Lincolnshire a strong man will consider himself very ill-paid in harvest if he cannot earn 9s. or 10s. (=Rs. 6) a day in following the reaper, and 7s. or 8s. when housing the corn." . .

" Here are the actual sums paid by the farmer to his man and his family in the past year."

Earning of John Jones and family from Michaelmas 1876-7.

	£	s.	d.
Man 52 weeks (average 15s.)	39	17	0
Wife occasional earning	4	16	10
Girl occasional summer work	5	9	5
Elder boy constant work	12	8	4
Young boy summer and occasional ...	5	11	4
Harvest account	24	17	10½
Gleaning	4	0	0
Total Rs. 1154 8 0	97	0	9½

. . . I will suppose my specimen to be in regular receipt of 14s. a week ; then the following is I believe, a fair example of his weekly expenditure.

	s.	d.		s.	d.
2 stone of bread at 2s. 4d.	4	8	¼ lb. of tea at 2s. 6d. ...	0	7½
½ stone flour at 2s. 6d. ...	1	3	1 lb. of soap ...	0	4
4 lbs. meat at 8d. ...	2	8	1 lb. of soda ...	0	1
½ lb. butter at 1s. 6d. ...	0	9	1½ cwt. coal ...	1	6
1 lb. lard	0	10½	Paraffine oil for light ...	0	4
2½ lbs. sugar at 3½d. ...	0	8¾			
			Total ...	13	9¾

" I have selected a very unfavourable case for exemplification, but inasmuch as such instances are not unknown, I have taken some pains to ascertain the mode in which under such circumstances the money is usually spent. With the help of gleaning corn and garden produce the figures for flour and bread would be considerably decreased. . . .

"Perhaps no better test of the working classes of the greater part of the country can be found than in the consumption of butcher's meat. In this matter a wonderful increase has taken place of late years; and although the consumption of farm labourers does not yet equal that of the higher paid artisans, it is much greater with that class than formerly."

From the above remarks, the present condition and the prosperity of an agricultural labourer in England can be compared with his fellow workmen in India, whose daily wage is 1½d., and whose food is ½ lb. of parched grain (chabena), as breakfast at noon, and 2 lbs. millet meal girdle cakes, with a little pulse or green vegetable, or wild herbs, with or without salt at night. Wages as a rule are derived from the produce of the labour. The increase in quantity, and the profit of agricultural produce are naturally always limited, that is, the produce cannot be increased beyond a certain extent. Of late in England there has been no increase in the profits of agriculture; nevertheless, owing to the general rise of wages in England, which is due to the increase of railroads and the rapid exchange of commerce, the agriculturists also could not help increasing the renumeration of their labourers. And at present the rate of wages has reached such a point, that, in spite of all skilful husbandry, reduction of manual labour, by use of machinery, farming is hardly considered a paying business. The consequence of this is that every day the area of pasture is increasing and the arable area is decreasing. In the reports of the Assistant Commissioner of the Royal Agricultural Commission of 1882, Messrs. Little, Druce, and Coleman, and in other Parliamentary Blue Books, the evidence of this fact can be found in hundreds of places. This increase in labour is unanimously considered one of the important causes of the ruin of the farmers and the failure in the profits of husbandry. Mr. Little in his report page 11, says:—"The cost of labour has increased considerably." I am told that in 1859, 9s. a week were the ordinary wages. In 1880 they were 14s. to 15s., a rise of 25 per cent. . . . .

"Then the cost of labour, which (on a farm) in many counties equals rent, and is generally not less than 30 per cent. of the total expenditure." . . The four-course system has been usually followed, but of late years the term has been extended to five years, by keeping the clover or artificial grasses down, for two years instead of one, with a view to save labour (page 15.) Much land has been laid down in grass of late years, and a still larger quantity is said to have "fallen down," as it was too poor to cultivate. One farmer whom I called upon had laid down 90 acres of land as he said "because of the dearness of labour," (page 32), &c., &c., &c. Mr. Druce's report page 106, "The increased cost of labour on the farm, was repeatedly brought forward as a further cause of depression, and in all the fifteen counties of my district, there was the greatest unanimity of opinion among the farmers that such cost has materially increased during the past few (say ten or fifteen) years, &c., &c. Mr. Coleman's report page 11. "Thousands of acres of inferior wheat-growing land have within the last decade been sown down in grass, and much labour thrown out in consequence," &c.

All the above remarks strengthen the argument, that lately there has

been a general rise in wages, and that the condition of the labourer is far better than it was twenty or thirty years ago; and this is due to the progress of railroads and trade.

We hope the reader, after taking all the above points in view, can form a fair opinion of the effects of our present Indian trade; and will understand whether it is more beneficial to the country which has only labour and not capital of its own, or to that which has capital and purchases our labour with it.

13. We should not conclude this chapter without giving a glance at the general nature and the details of our present trade in India, and seeing what our imports and exports are, and how far they benefit the country's material prosperity under our present conditions *i.e.* (a) of depending on the investment of foreign capital, (b) of giving our food in exchange. The features of the general trade of India may be grasped by simply paying attention to this fact, that along about eight or nine thousand miles of Indian coast line there are only four Ports for foreign trade—(1) Calcutta, (2) Bombay, (3) Madras, (4) Karachi; and the number of Vessels belonging to the country or to other foreign Companies *in the country* are comparatively so very few that they hardly deserve to be taken into consideration. Further, if we look at the Commercial statistics and consider carefully every item of our exports: we see how little the trade is concerned with home industry, and how far it needs diversity of occupation and the division of labour."

With reference to the Commercial Returns of the country, the trade of India in 1882-83 is shown as follows. (Whitaker's Almanack for 1884, page 289.)

IMPORTS.		EXPORTS.	
	Lacs of Rupees.		Lacs of Rupees.
Cotton manufactures	21,43·2	Cotton	16,04·9
Metals	4,61·6	Opium	11,48·1
Cotton twist	3,37·8	Rice	8,47·6
Machinery	1,34·2	Oil seed	7,20·
Liquors	1,33·5	Wheat	6,06·9
Railway plants	1,11·6	Jute (raw)	5,84·7
Provisions	1,08·7	Hides	4,44·4
Sugar	1,08·7	Indigo	3,91·3
Silk (raw)	1,07·4	Tea	3,69·9
Coal	1,02·	Cotton twist	1,81·7
Woollen goods	98·5	Jute manufactured	1,48·8
Silk ditto	97·8	Coffee	1,39·2
Mineral oils	86·6	Wool (raw)	80·9
Hardware, &c.	79·2	Cotton (raw)	79·
Apparel	77·	Lac	69·9
Salt	51·5	Teak wood	61·1
Spices	51·1	Silk (raw)	54·4

The following statement exhibits the distribution of the foreign trade of India—

Countries.	MERCANTILE. Imp. Lacs of Rupees.	MERCANTILE. Exp. Lacs of Rupees.	TREASURE. Imp. Lacs of Rupees.	TREASURE. Exp. Lacs of Rupees.
United Kingdom ...	40,36·6	35,43·	5,78·4	19.
China	2,07·2	13,16·	2,43·4	1·9
France	48·4	7,20·7	5·2	1·4
Italy	44·4	3,38·4	1,58·2	
Straits Settlements	1,59·7	3,63·9	7·6	1·9
United States	93·4	3,34·3		
Austria	27·0	260·3	34·4	
Australia	47·7	1,08·9	1,42·6	
Ceylon	57·4	139·3	30·4	46·9
Belgium	7·8	2,15·2		
Persia	57·4	1,22·4	19·3	7·3
Arabia	28·2	77·6	44·9	5·
Mauritius	88·3	59·3	·3	
Turkey in Asia ...	23·3	41·4	40·2	·9
Zanzibar ...	26·7	41·5	1·9	5·5
Germany ...	9·1	51·8		
Other countries ...	37·6	6,06·1	38·7	8·
Total ...	50,00	83,40·	13,45·3	98·

The following remarks are given in the said Almanack from which these figures have been copied :—"In the last ten years the imports of Merchandise have risen 58 per cent., precious metals 132·25 per cent.; exports of merchandise have risen 51·75 per cent.; while the export of precious metal has fallen 48 per cent, all signs of a general rise in the standard of comfort. Nevertheless, the proportion per head of the population is still no more than 5½ rupees, against £20 7s. 10d. (144 rupees) in the United Kingdom." "The average annual excess of exports over imports in the same period, has been 1,82¾ lacs." The import trade, however increasing as it should, somewhat faster than the exports, "The actual figures show an increase of 69·57 per cent. of imports, and 48·46 per cent. of exports." "All imports are now free, excepting arms and ammunition, opium, liquor, and salt." The bills drawn by the Secretary of State on India, during the year, amounted to £15,120,521, the equivalent of 1858⅓ lacs at the average of 1s. 7·52d, or very nearly the amount of the year's excess of exports, and of the average excess for the ten years.

We have no time to go further into this subject, but we must cast a very cursory glance at the items of our exports and imports. A full investigation of these points would be very interesting, but this chapter has grown so large that we cannot say more than a few words now. In our list of exports we see scarcely anything but what we produce from our *land*. They are either articles of food, or tea, coffee, and indigo, which have been introduced into India, by foreign capital, and which have a tendency to oust the first necessaries of life, which are therefore becoming more and more scarce every day. The above items, tea, coffee, and indigo, and opium which shows the largest sum on the export side with the exception of cotton (1,148·1 lacs of rupees) are

merely a nominal counterpoise to our imports, and are of as little real profit to India as a weight in scale is to its owner.

From receipt for these we derive no other benefit generally speaking but this, that our common labourer instead of growing corn for himself and eating it, grows these things and receives wages, not less, perhaps a little higher, than in the other case. The remainder of these receipts goes in interest on the capital, and the items of opium, salt, canals, State railways, &c., though they appear in the Financial Budget of the country have nothing to do with its material prosperity. There are some other things in this subject worth consideration; the facts, for instance, of there being scarcely any duties on imports in India; while European countries levy a high duty on our tea, coffee, tobacco, and silver articles, &c., for the manufacture of which India still has a reputation. But in order to avoid touching on political points, we will say nothing on those matters. Excepting these, the exports which are produce of native efforts and capital include nothing else but the first necessaries of life—the grain. It is quite clear that an encouragement of such exports must be at the cost of our food.

Now briefly as to the imports—

The most striking items on this side are Provisions 1,08·7 lacs, sugar 1,05·7 lacs, and salt 51·5 lacs of rupees. It is really unfortunate that though we produce and possess all the ingredients of the above items, yet we cannot manufacture them fit for use. We pay for making them and bringing them back to India three or four times the price for which we had sold raw materials out of the country.

We export wheat and pay highly for making it into biscuits, vermicelli and macaronie, &c., &c. We produce sugar, and pay again for manufactured loaf sugar. We produce tobacco, but pay again for birdseye, &c. We export hides, but pay again for saddles, harness, patent leather, boots and shoes, &c., &c. From these few hints the nature of our business should be judged. And one thing more about the wages of our workmen should be taken into notice here: for example, take hides; first we send them abroad; then we re-import them in the shape of patent leather, and pay four or five times the price which we received originally for the hides; we then make the leather into shoes, and sell them at half the price of English made shoes of the same stuff and style, sold in our own country. This is owing to the cheapness of wages. Notwithstanding this, we do not make even these trifling articles in quantity: and why is it we do not do so? Because we have no capital. And why is there no capital? Because there is no individual energy.

CHAPTER IV.

Improvement in Agriculture.

1.—This proposal is most important and why.—Indian agriculture is in need of improvement; but it is very difficult. 2.—Geological condition of the soil—soil very fine and easy to work, and homogenous in many districts—nonenclature of difficult soil—subsoil—varieties of soil. 3.—Mechanical conditions of soil—very easy to work. 4.—Physical condition and climate of the country—rainfall and its effects—combined action of rainfall and heat. Glossary of the technical Indian words—nakhats, different crops sown in them and the amount of rainfall. 5.—Chemical conditions of soil—analytical table of Indian soils fromvarious districts ofthe Province—even the poorest soil contain all the nutritive matters for plant life. Indian soils have stores of plant food. 6.—Indian peasants and their experience—mode of life and work. 7.—Owing to the above naural gifts India is able to produce more than enough for her people. 8.—Example of growing wheat in India and its general treatment—soil—manure, ploughing, &c.—seed—weeding—watering—varieties of wheat—reaping, thrashing, winnowing—average out-turn of grain and straw—cost and return—admixture of other grain—diseases—wheat is not commonly staple food in India. 9.—General treatment and process of growing wheat in England—all the points mentioned in the last paragraph compared—the most important question of cost and return compared. 10.—Most important point of the reduction of cost of manual labour—improvement in agriculture is impossible—some outlay will be needed. 11.—The above examples prove that Indian farmers know all the secrets of husbandry, but cannot make improvement when the question of cost comes in. 12.—Detail of improvements—we agree that improvement is necessary aud will do good, but in the present state it is impossible. 13.—The first thing that is required is water—method that people use for providing water—depth and average cost of wells—people know how to make wells, but are unable to make them, law prevents the progress of making wells—water is the backbone of all the improvements in Indian Agriculture—the help of Government in the matter, and difficulties arising by that—Takami and Canals. 14.—Manure—the quantity and quality of manure is decreased—khad and pans (farmyard manure) is best of all—without manure of good quantity and quality what scientific farming can do? 15.—Cattle—how they were supplied and why decreased—the plan of improving them, but proved

no success—growing food for cattle is recommended, but it is impossible. 16.—Implements—Indian and English implements of husbandry and their cost compared—no good implements can be used without large outlay and large farms—reason why English farmer is able to use them and Indian not. 17.—Seed—how the people get it—why they cannot improve it. 18.—The conclusion.

1. This plan, namely an "improvement in agriculture," for bettering the condition of the people of India is the most important of all the plans that are recommended for the purpose; some of these have already been dealt with in the foregoing pages, and some are yet to be considered, and will be treated in the following chapters. Why is this the most important of all? This question needs no explanation, because our readers after reading the previous chapters will be well aware that agriculture is everything in India. It is the occupation of 90 per cent. of our people; it is the chief factor of the revenue of the Government, it is the source of the extravagance of our large land proproprietors, and of the maintenance of our tenants and labourers, (60 per cent.) who thereby keep their bare existence. To a greater extent than money the agricultural produce of the country acts as bullion for providing the necessaries of daily life to our peasants; it comprises the items of capital and interest of our grain lenders, who like the bankers of a wealthy country keep an account open with the tenants, but instead of money, advance grain, and take the same back with 25 or 50 per cent. interest. It is the principal factor of our trade and export, thereby itnot only keeps open the arterial channels of the economical affairs at home, but it provides business and occupation for the people abroad. Had we not to export the agricultural produce so many foreign ships and large vessels would never have touched the Indian ports as they do now. In short, all the political, legal, economical, industrial, and commercial affairs in the country are entirely interwoven with the agriculture. Under such circumstances, certainly this question is such a one as to command primary and thorough attention; and improvement in agriculture means the improvement in everything; in other words improvements in the prosperity of India. Also, there is no doubt that our agriculture is in a very crude state, and in every respect is in need of improvement. As a rule in all worldly affairs, there is no limit to improvement; in the case of Indian agriculture, which, like all other affairs of the country is of a primitive nature, there is no reason to doubt or deny that there is room for improvement, and that after improvement it will be beneficial to the country. But the questions are:—Firstly. Whether in the present condition of India, it is possible to make any improvement or not? Secondly. How far such improvements which have been and will be done by the outlay of foreign capital have proved and will prove of any good to the country? As far as our experience and knowledge go, we have no hesitation in believing, that like all other plans for raising the people from depression, this plan also has as yet proved and in the present condition of India will ever prove a failure. There is a good deal of difference between saying and doing. For saying, simply colloquial arguments are required, but for doing,

material and natural favourable circumstances. The problem of the improvement of Indian agriculture is very easy to describe but seems very difficult to work out. As this is a very important question, and I have taken a particular interest in this for a long time, and as far as possible have also studied it theoretically, therefore, I should like to treat it more fully than the other questions described in the foregoing chapters. To make the matter as clear as possible, it seems necessary that, firstly, we should give some hints about the nature of the soils and the climate, and about the features of the present practical work and of the industry of our people, and secondly, should show in what respects the improvements are most particularly needed, but at the same time should point out that improvements of the kind cannot possibly be executed in the present condition of the people. As for our example we will take the same country, namely, "The North-Western Province and Oudh," of which we have personal knowledge, and which from the beginning of this work has been selected as a standard for illustration.

2. The geological, physical, and chemical conditions of the soil seem to be in all respects naturally most favourable for agricultural purposes. The constituents of soil and climate are suitable for all sorts of crops; such as cereals—wet and dry. Roots:—potatoes, turnips, swedes, mangels, carrots, radishes, &c. Fibre plants:—Cotton, hemp, china grass, jute, &c. Colouring substances:—Indigo, kusam, (saf-flower), &c. Artificial grasses:—Sainfoin, lucerne, &c. And besides these, for the crops of mercantile and exportal value, such as poppy for opium, sugar cane, &c., which are grown in most districts of the province; as well as tea in some districts. In addition to the above, several other indigenous and catch crops are taken in different parts of the year. So e description of the above crops will be given hereafter.

Geological conditions of soil.—The Province which has an area of 106,111·5 square miles is almost a flat plain, having throughout homogenous soils of two or three different kinds; but not differing much in mechanical, physical, or in chemical conditions. According to the geological classification, it is a part of the Indo-Gangetic alluvial low lying plain, and almost in every part the soil is alluvium, which is supposed to be deposited by fresh water during very late geological times. Except in the mountain ranges of Himalaya and Vindia, which roughly speaking comprise the boundaries of the Province, and the Vindiachal (a part of the Vindia chain), which crosses Mirzapur and other districts, no other stony hills or elevated tableland can be seen throughout the plain. No reliable history or satisfactory proofs of the age and the origin of the deposition as well as of the agencies by which the soil has been formed have as yet been traced out, but the particles of the soil being so very remarkably fine, show that the weathering and disintegrating of the same must have been a work of innumerable years. Except in the above-mentioned mountainous parts, and their vicinities not a single fragment larger than sand particles of any hard rock, common stones, or any mineral is seen. No sign of any igneous or eruptive rocks, or of any volcanic disturbances. Generally speaking in the whole plain, even in mountainous parts not very many fossils of any kind occur, and there is especially a total absence of

marine fossils. Some kind of shells are found, but they are supposed to be fresh water ones. In the chemical analysis, which I have made of the soils of several districts of the Province (especially of Oudh) on examining the sand or insoluble part, there seemed no other mineral but pure silica, in form of quartz, and some mica. The particles were very very fine, and even under the microscope no other minerals could be distinguished. The whole alluvial area is composed of some form of clay more or less sandy.

According to "The Geology of India," by H. B. Medlicott, M.A., even in the Vindia chain (the nearest mountain to Allahabad the capital town of the Province), although the lowest beds are of the Silurian Age, yet there seems to have been very little disturbance after the formation of the beds. The upper bed is almost conformable to the lower bed. The top bed is of red sandstone, with subordinate bands of slate and lime stone—and the lowest bed is of metamorphic or gneissic rock. In a bore of 700 feet deep no marine fossils were discovered. On the other side (North-Western) in the lower Himalaya chain, Kumaun and Nanital, &c., there are found also bands and beds of eruptive and igneous rocks, which penetrating the sandstone make a kind of granite. About Nanital lime stone (Oolite), and a kind of conglomerate dark slate are abundant. There are too, some metamorphic rocks, more commonly schist, but it is not much like slate. Near Almora there lies a broad band of granite for a good long distance. And here the sign of the disturbances in the beds is also well marked. From Kumaun after a blank of 250 miles, are the Nepal mountains (a series of lower Himalaya.) Here the rocks differ from the above. Sandstone lies over a thin band of blue limestone, underneath which is a thick band of schistose slate, with a layer of impure coaly matter. (Perhaps lignite.) In these mountains is found a white crystalline limestone, but it is not dolomite. Towards Bundelkhand the soil is a kind of gneissic clay. Here among the minerals crystalline hornblind as well as (in Rewan Estate) diamond is found.

As we have no necessity and also no space in these pages to deal with the details of the geology of the Province, and since roughly speaking the whole cultivated and fertile area of the plain in question is alluvial sandy clay and more or less homogenous throughout; therefore we will confine our remaaks to this kind of soil only, and will take the only crops that are grown in it. The provincial nomenclature which is given to the sub-divisions of the soil is Bhangar, Khadar, Terai, and Bhabar; but more technically from the agricultural points of view, in whole Oudh and all other neighbouring districts they are classed as follows :—

1. Matyar :—Clayey.
2. Domat :—Sandy clay or loam.
3. Bhoor :—Sandy.
4. Dhankar :—Low-lying hard clay.
5. Bijar :—The same as No. 4.
6. Kachar :—Reta or Baluhi, pure sandy.
7. Usar :—Partly barren (steril.)
8. Banjar :—Quite barren.

The above local names change in other districts. Besides the above classification of the soil, there are other local names of the plots according to the site, position, manurial and agricultural value of the

fields ; such as Uperhar or Choumas, land where water does not stagnate. Goind or Kachhyana, land near population, having good productive value, and rich in plantfood constituents and having a good supply of water. Do-tur or Do-fasli, land of the above qualities from which two crops can be taken in a year. Majhar, of medium qualities—not sufficient water being in reach. Bhoor, land of inferior quality, water for irrigation being scarce.

The subsoils and the underlying strata of this aluvial plain throughout the country are of the same nature and kind ; but the more remarkable features are, that in some places they vary and differ in thickness, and arrangements, even within a few yards distance, and nowhere in the country they exist for a considerable distance without faults. The strata are—(1) Silt or aluvium ; surface soil ; a fine powder-like sandy clay, containing more or less organic and vegetable matters. (2) (a) "Pendole," a sticky clay, rich in alumina, fine particles, and well compacted, gray or cream colour ; (b) or in place of the above Kapisa, also in some places called Kabis or Koril, yellow, well compacted clay. (3) Pure sand, black and white. (4) Granular clay or sand. (5) Kankar, earthy lime stone, varying in shape and size, scarcely ever in the form of unbroken band or pan, but generally broken in fragments of different shapes and sizes. As far as the observations are as yet made, the same layers are seen to occur again in a regular or irregular series downward. But there is no rule or regularity in the arrangement, formation, or thickness of these strata. In some places kankar is found immediately below the surface soil ; in others, sand above and kapsa or pendole underneath.

(1) *Uperhar Matyar* is the best soil for wheat and all other cereal crop sand low-lying matyar for rice.

(2) *Domat* is the best soil for all crops ; cereal, sugar-cane, indigo, opium, &c., especially for root and green, or market-gardening crops, such as potato, radish, and cucumber, &c.

On (3) *Bhoor* soil generally, a kind of pulse (*Mothi*) is grown ; but barley, and rape (*sehun-a*) are also not uncommon. By improving *Bhoor*, all other *rabi* * or winter crops can be grown.

(4) *Dhankhar*, or low-lying stiff clay (often brown in colour) is suited for rice only, but if in good condition, some of the winter crops (as peas, &c.) are also sown ; or in dry seasons rice is changed with other *Kharif*, † or rainy season crops, as *Makra* or *Sawan* varieties of Millet (Panicum Italicum).

(5) *Bijar* soil is that which does not produce any other crop but rice. In its nature this soil resembles this last named one, but remaining long under water, cannot grow any other crop.

(6) *Kachhar*, *Reta*, or *Baloo* is pure sand, generally on the slope of the rivers and running streams, and in the deltas of the rivers and in their vicinity, and valleys, tracts of this soil lie. The places which are above the levels of the flood of the rivers are entirely barren, and are unfit for growing anything. On these sand dunes

* Rabi = winter crops that can be produced by irrigation.

† Kharif = crops grown in rainy season, and requiring water in excess.

here and there sometimes a wild plant called Madar is seen, but it is of no use. But on the slopes of the streams where, after flood, a layer of silt, even though only two or three inches thick, is deposited, the soil remains fertile as long as it is not washed away. In this case, all *rabi* crops, even wheat, but especially barley or pulse (*mothi*) are grown. In the vicinity of streams, where there is no silt, deposited on pure sand alone, Melons, especially Water Melons, grow and thrive well; a large plant called *Jhaw*, and a bushy thorny plant *Jawansa* grow abundantly. The former is very useful for fuel, basket-making, and thatching, &c., and the latter a very good fodder for camels.

(7) *Usar*, this is another unproductive kind of soils, the large or small tracts of which lie in almost every pargana (parish) of the Province. There is not any fixed condition for its locality. It is not uncommon to come across a piece of this *Usar* soil amidst a group of very fertile fields. Except a few very rough and coarse perenial natural grasses, most of which are peculiar to the soil and grows here and there in tufts, and some wild plants and trees, no crop of any kind can be cultivated. It is impregnated with some kind of saline matter or efflorescing salt, which is poisonous to plant life. Generally the salt in largest quantity is sodium sulphate. As the *Usar* land is not worked, tilled, and secured from inundation, generally its level is seen to be a little lower than the surface of the adjacent ground; and therefore except the overflow of water, which generally makes its way through the natural falls, slopes, and streams to the neighbouring rivers, scarcely any water goes out of the plain. The soil being itself rich in Sodium salt, has a greater retentive power for moisture; therefore in the rainy season it becomes like a sloppy paste, and the water remains stagnant in it for a long time, the salt being dissolved but remaining in the same place, penetrates into the subsoil; and in the dry and hot season, by evaporation, it is brought again on the surface, and there hardly remains any moisture therein. This constant circulation of the injurious salt keeps the land unfit for agricultural purposes. No successful method has, as yet been devised to get rid of this obnoxious matter. There is another peculiarity of this salt that it creeps to the neighbouring fertile fields and spoils them. The reason of this is quite plain, *i.e.* through the medium of water it is transferred to and saturates the soil of the good field, and accumulating in large quantity shows its effect.* Mr. Wilson, an officer in the department of Agriculture and Commerce of the Province by his experiment, has found that the attempt to wash away the salt has, owing to inundation, proved more fatal to plant life than the original soil.

(8) *Banjar;* this is an *Usar* soil of still worse kind. Even those grasses and plants that grow in *Usar* cannot live in this. Generally the pieces of banjar land are very rich in reh, sodium sulphate, or carbonate—a very crude kind of glass (*Kanch*) is made of this, for making bangles, by Manihar (a caste, *vide* appendix under Manihar). Also it is used by the washermen as washing soda On the whole, except the Usar land, the area of which is comparatively very small,

* (Report of Department of Agricultural Commerce of 31st March, 1882, page 46.)

the geological condition of the soil is most favourable to agriculture. The particles of surface soil are remarkably fine and not difficult to work; neither does obnoxious subsoil containing iron, moorland, pan, or lime, and magnesia, &c., &c., occur in injurious forms.

3. *Mechanical condition of soil.* There being no hard gravelly soil, no stiff clay, no hard pans and no sticky calcareous soil to work, is a great advantage to the farmers. By a very crude implement of the simplest construction, which, in comparison to an English improved implement of the kind, can hardly be called a plough, the land is torn easily. The instrument consists simply of a beam, a sole, and a stilt, all of wood; to the sole of which by means of a wooden wedge, an iron tire, about two feet long, and three-quarters of an inch wide, is attached. By this home-made instrument, which they call a plough, they tear (plough) three-quarters of an acre in one day. In place of the plough, which is dragged in England by a pair of horses, the average cost of which (the horses) is £60 or Rs. 720, and the cost of feeding is calculated at £110 or 1320 Rs. per annum the instrument for the same purpose in India is drawn by two miserable oxen, which cost from £1 or 12 Rs., at the lowest to £5 or 60 Rs. at the highest; and whose feeding comes to almost nothing. For breaking clods and making the surface of the fields smooth, instead of crosskills and Cambridge rollers, drag, Norwegian, and many other harrows, which, altogether cost several thousand Rupees, they simply have a log of wood, which answers their purpose quite as well as the above named instruments. Besides these two crude and clumsy implements for tilling land, and preparing fields and for sowing seed, they hardly have or know any other instrument, or ever feel any want of it. Working with these kinds of implements means a great loss of time, and improvement in them would be of great advantage; but the fact is, that this improvement would cost money, which is quite out of their reach, and consequently has to be replaced by an expenditure of time, which, at present, in India, is of but little value.

4. The physical condition and climate of the country are still more favourable for agriculture. The annual crops that are grown over the whole world, from the hottest to the coldest climates, are already mostly grown, and all of them can be grown in the country. The seasons generally being regular, and divided into fixed periods, there is not a chance, but a certainty of being successful in all the processes of agricultural work. Owing to the advantages of the fixed and gradual changes of the season, the work of husbandry is divided by long experience in such a manner that, in no respect is there a loss of economy in the distribution of labour and in the expenditure of sowing or harvesting. The heat being moderately high, all chemical changes necessary for plant life take place more perfectly and readily; also manure, and all nitrogenious matter, roots, and stubbles of the previous crop, undergo chemical re-action and decomposition more quickly than in cold climates, and become available for plant food. The thunder storms in the rainy season being so constant during four months, that the atmosphere is almost continuously bright with lightning, a comparatively large quantity of the nitrogen of the air enters into combination with the oxygen, and becomes available for plant food. This combined nitrogen is brought down by the rain, nearly one

half of which during the first month is absorbed by the soil which has been parched for four months by the summer sunshine, and the heat of May and June, and thus this essential constituent is supplied for the growth of the plant at the time of immediate want. Besides the heat of the summer the atmosphere at the beginning oft rainy season one month before the germination of seed becomes so muggy and close, and the heat so excessive, that all vegetable or organic matter left on the ground gets fermented rapidly, All these combined actions of heat, atmosphere, rain, and lightning, physically help and hasten to a great extent in preparing the plant food in an available form. At the beginning of the rainy season first slow and slight showers come down, and moisten the dead leaves of the trees that have all fallen in heaps in summer, and all other organic matters that have been dried and burnt by the sun, as well as the roots and stubble of the last crops ; and thus these get fermented. The muggy atmosphere as stated before, stimulates the fermentation and putrifaction. At the same time, *i.e.* immediately after the first rain the fields are ploughed and left loose for a few days. Then the rain gradually increases, and passing over the fermented organic matters, carries their manurial constituents in a liquid state to the fields which absorb the whole moisture for a few days. The fields till the fall of the heavy rain begins are stirred once or twice again, thus the oxygen gets free access ; the carbonated water of the soil dissolve the ash constituent and the minerals therein. The other natural agencies, as heat, &c., assist the chemical re-actions, and prepare ammonia from the organic liquid. By the time seed is sown, all necessary constituent get accumulated in the soil in an available state. If there be the matter that is essential for plant growth in or about the soil, there is no want of any of the natural and physical agents to make it ready for use. The farm yard manure which is applied a little before the Monsoon begins undergoes the necessary changes quickly. During the rainy season the rain stops for a few days, the clouds get cleared away, and a bright and warm sun appears ; then owing to the great heat of the sun all nutritious matters from the sub-soil are brought to the surface, or within reach of the plant by means of evaporation. The changes and progress in vigour and growth which sunshine after long rain and rain after long sunshine instantly produce in plants, are marvellous and remarkable, and can only be seen in India. Dhan (rice) and Juar (millet), which often by unusual and long sunshine in rainy season seem to be burnt down and totally destroyed, by only one heavy and sufficient shower in 24 hours increase to three times the size they had before. It is not unusual to see these plants grow several inches in one day. The sight of these fields which meeting with the favourable condition, make a rapid progress at once is really astonishing, and can never be seen in cold climates. One species of Dhan (rice), named *downsi*, which is sown in deep watering places, as jheels (large water tanks) grows several feet in one night—when the jheel fills.

The direct rays of the sun in the rainy season alternating with heavy rain, and the muggy and close atmosphere, have a great effect in bringing the plant food from the subsoil by evaporation to the reach of the plant. For this reason, not only the wet crops but the winter crops also mature

very quickly. For instance, wheat sown early in November, is, as a rule harvested by the end of March. Many of the karif (rainy season) crops, such as maize, several kinds of millets and pulses mature in six or seven weeks only.

As the rainy season or periodical monsoon in India is very important, all agricultural prospects entirely depend on the rain, therefore it seems necessary to give in detail its amount and the time when it occurs, and also the crops that are sown corresponding to the amount of the rainfall, as well as the minimum quantity of water which is required for each crop. The rainfall and the crops also in the Province vary in various parts. In mountainous and hilly parts of the country there is a much greater rainfall than in the plain. But our remarks about the rainfall and also about the crops are confined only to that part (central), a little description of the geology and the climate of which has been given in the foregoing paragraphs. The extract shortly to be given from the pamphlet "The Famine, and the Relief Works in Oudh, and the N.W.P," by the author, will give a brief account of the rainfall and the crops sown during the year.

As many of the grains that are sown in India have no common English names, and specimens even of some of them are not seen in foreign countries, therefore their vernacular names will be used in the following paragraph. But for the sake of English readers a glossary of some names by which they will be able to form some idea of the grains is given here :—

1. *Kharif*: Rainy season crops sown in June and July, harvested in September or October.

2. *Rabi*: Winter crops sown in October and November, harvested in March or April.

Sawan (Panicum Italicum) : A crop much more like grass than grain, generally taken as a catch crop, but often in rotation takes the place of had (paddy), in the fields which do not retain enough water. This is a crop that can be grown at any time of the year, even in the hottest months of summer. There are several varieties, the two most common are—

A. *Jethaoo*, also called Chaina, this is sown about May, and is harvested in eight weeks. As it takes good watering, therefore only well-to-do kashbar (petty tenants) sow as much as half an acre.

B. *Bhadela*, sown in June, harvested early in September. Seed is round, and of the size of mustard, with a very coarse coating of husk. Makes a very coarse sort of food. By well-to-do kashkars is sown to give in wages to the labourers, and to get from the straw early fodder for the cattle, and by poor people to get food for themselves and for their beasts. It is a food of the peasant only, and lasts only a few days during the year. It is never exported to any town or foreign markets.

Kakoon, belongs to the same natural order, but different species.

Miakra ditto. But the two last-named crops, do not grow in summer, and kakoon is used in towns for seed to give to small birds, hence is seen in town markets.

Kali Urdi or *Bhadela Urd:* A kind of pulse, early variety of proper *urd* or *mash*. (See urd), a staple food of the people, by boiling of which (alone) a sort of soup is made, which is eaten with other grain cakes.

They also make cake of the meal of this grain. This early variety is a local crop and is only used by country people.

Chhoti Juar, millet (dori seed), meaning small maize plant is of the same natural order, but a different species. Staple food of country people.

Arhar: A kind of pulse quite different from urd, but used in the same way.

Kodon: Not quite, but something like makra or sawan seed in shape. Used in the same way as makra and sawan. Straw used for bedding by country people in cold season.

Asami or *Kashtkar:* Literal meaning cultivator or petty tenant, *i.e.* the people who take a lease of a small holding about half to ten acres, and work with their own hands. In English there seems no word giving the full and exact meaning of kashkar, but "peasant" is the nearest approach.

Mothi or *Moth:* A variety of pulse, see urd. Special food for horses.

Urd or *Mash:* A kind of pulse, staple food for all people. Use is the same as of Bhadela urd.

Bajra: Plant of the same kind as maize, but grain much smaller and of different taste and appearance, staple food of the people in its harvest time; especially in hilly parts of the country.

Mung: A variety of pulse of the same family as urd or mothi. Used in the same form as urd, especially in towns and by high class people of refined taste, and is a regular food for invalids in the up country.

Chowmas: Fallow fields for wheat or other rabi crop.

Gram or *Chana:* Gram is supposed to be the English name of chana; but in England people have no idea of it. Next to wheat it is the most important grain in India. In India it is what the oat is in Scotland. The grain has a peculiar shape, and the husk which is very course, is of a peculiar colour. Several varieties, about the size of a pea, but quite a different plant, though the order is the same, viz., Leguminosæ. Makes hundreds of dishes, greatly used in confectionery. In a very large quantity it is parched in red hot sand, and thus makes the breakfast and luncheon of millions. Is a luxury of well-to-do and refined people. And is *the* food for horses.

The grains which make the staple food of the people are only used at the time when they are harvested, and they come on in such a regular succession that they keep up a regular supply of food. The people begin to eat a crop, when it begins to mature, but stands green in fields, and it is exhausted by the time the next crop reaches the same stage. The staple food grains of the country people, which are stored and eaten at all times are the following:—

(A.) The grains which form the principal part of the diet, and of which girdle cakes are made, or which are boiled—

1. Barley.
2. Joars, maize—dori seed.
3. *Chana*, grain.
4. A mixture of barley and peas, or barley and chana, *(Birra.)*
5. Coarse rice.

(B). The grains of which soups are made, and which take the place of meat, fish, fowl, and eggs, &c., are Urd and Arhar.

About 2 lbs. of the meals of the (A) grains or rice, and 4 ounces of

(B) grain, with a little salt make a full meal for a male adult, which he takes only once during 24 hours. Besides, this, at noon for their breakfast the people have half a pound of one of the above grains, either steeped in water or parched in hot sand. This is the food of 60 per cent. of the population, half of whom scarcely have even this food throughout the year.

Rainfall and crops sown aocordingly.—From Asarh (15th June) the rainy season commences; and it is considered very useful and a favourable season if the clouds appear and rains begin just after the expiration of *Mirghisra nakhat.*

Nakhats.—According to the Hindu chronology the year is divided into 27 nachatras or nakhats. Of these, the rainy season nakhats are most commonly known throughout India, and all agricultural business is carried on accordingly. There is no exact or fixed time for these nakhats corresponding to that of the English months, because sometimes their length increases or decreases according to the difference between the dates of the lunar months and the length of the *Shankrant,* (solar month) but their names and probable time from *Asarh* (June) to *Chait,* (March), viz., during the kharif and rabi seasons, are as follows :—

Asarh from 15th June to 14th July = (1) half of Mirghisra, (2) Adra complete, (3) three-quarters of Punarbas.

Sawan from 15th July to 14th August =one-quarter of Punarbas, (2) Pùkh or Chiraiya, (3) Shalekha complete.

Bhadon from 15th August to 14th September = (1) Magha, (2) Purba complete, and (3) one-quarter of Uttra.

Kuar from 15th September to 14th October = (1) three-quarters of Uttra, (2) Hast or Hathya complete, and (3), half of Chitra.

Katik from 15th October to 14th November = (1) half of Chitra, (2) Sowati complete, (3) three-quarters of Bisakha.

Aghan from 15th November to 14th December = (1) one-quarter of Bisakha, (2) Anarodha, and (3) Jestha complete.

Púkh or Pús from 15th December to 14th January = (1) Múl, (2) Purbakhar, (3) one-quarter of Uttrakhar.

Magh from 15th January to 14th February = (1) three-quarters of Uttrakhar, (2) Sarwan complete, (3) half of Dhanestha.

Phagun from 15th February to 14th March = (1) half of Dhanestha (2) Sutlebekh complete, (3) three-quarters of Purbhadrapad.

Chaitra or Chait from 15th March to 14th April =(1) one-quarter of Purbhadrapad, (2) Utrabhadrapad, and (3) Rewti complete.

The rain generally begins and is wanted from Adra (about 15th June), nakhat and is always local. A good heavy shower sets in motion at once all sorts of agricultural activity: the ploughing commences, and all kinds of kharif grains, as sawan, bhadela, kakun, makra, kali, urdi or bhadela urd; maize (Indian corn) and hemp and early, or coarse rice and in some places chhoti juar, arhar, kodon, oil seed, and patwa are sown and seeds of fine rice, late varieties, are sown in seed plots. The most favourable conditions for sowing rice are when the fields are full of water and ploughing them in the same state the seed is cast in the slime. This is called *leo.* Another manner of sowing, called dhorya (broad-cast), is that when there is not sufficient water, the fields

are well turned up and the seeds are scattered in the dust. In jhils and talabs, water reservoirs, water nut is planted.

The best time for sowing rice is Adra nakhat. As the proverb goes :

" Chitra gchun, Adra dhán ;
Na unka girwi, na inka ghám ;"

i.e., " wheat sown in Chitra and dhan in Adra ; the former cannot be spoiled by smut, nor the latter be destroyed by the sun."

If there be no rain in Adra, the kashtkars, though not very much disappointed, yet are very sorry to lose the golden opportunity. If there be only a little rain, but water in the tanks be available, they first irrigate (1) the sugarcane fields, and then, if possible, keep (2) the fine rice and (3) coarse rice plants alive ; then irrigate (4) makra, (5) kakun, (6) sawan, and (7) maize. The last-named corns (from Nos. 4 to 6), being early crops are of great help to the kashtkars, and are only sown for the purpose that they may get bread soon. After about three or at most four nakhats they are reaped. Too much rain in Adra is also injurious, because the fields cannot be worked and sown, and the rice plants, being drowned, get rotten.

Punarbas, (about 15th July.)—In this nakhat mostly juar, arhar, oil seed, patwa, and also rice are sown. It is the latest time for rice. The weeding of the fields is commenced. Heavy rain, after the juar seed has germinated, is very useful for all crops, specially for rice ; and slight or no rain increases the labour of irrigation, but would not destroy anything.

Pukh or Chiraiya (about the end of July.)—This is the best time for sowing moth or môthi and transplanting fine or late varieties of rice the proverb is : " *Chiraiya men lai uchar puchar ; Shalekha menlai : ahut nihar ; Magha men jin layo bhaiya ; ek-ek dhan men doe doe pia ; i.e.*, " in Chiraiya transplant rice in any way ; in Shalekha with care but, my son, do not transplant rice in Magha, because for each seed you will find two pias" (empty cells), and this nakhat is the best time for filling the fields for rabi crops, wheat and barley ; it is the earliest time for sowing urdi, mash and bajra, arhar, mung, and kala til, and preparing seed-plots for tobacco. Heavy rain is bad for young jarhan plants just transplanted. Urdi, sawan, and kakun suffer ; mothi and bajra cannot be sown. But if no rain sets in, it makes the cultivators perform the laborious work of irrigation, if there be water in the tanks. Very much work in weeding the fields opens for labourers.

Shalekha (about 10th August.)—Proper and best time for sowing bajra and urdi or mash, and latest time for mothi, arhar, and transplanting rice (fine.) The *choumas* fields are prepared and the weeding of the kharif crop continues ; and if there has been sufficient rain in previous nakhats, or should there be sufficient water in tanks for irrigation, the scarcity of rain in this nakhat is not very injurious, rather is good to dhan, mothi, and bajra. As the proverb goes : " *Sawan sukha dhan Bhadon sukha gehun ;*" " by passing sawan dry, the rice crops yield very well ; and if there be no rain in Bhadon, it is very good for wheat."

Magha, (about 20th August), is one of the most important nakhats of the rainy seasons ; very much water is required at this time. If there be no rain in this nakhat, and the previous nakhats have passed with little

or no rain, the kharif crops suffer very much indeed, and the cultivator lose all their hopes of agricultural prosperity. This is the nakhat in which rain is prosperous to every crop, as the proverb is: "*Magha k bursai, mata ke purse ;*" viz., a child is well satisfied if for him dinner i served by his mother, and the earth remains no longer thirsty (or is wel satisfied) if there be rain in Magha. The choumas fields are readil prepared in this nakhat, which are expected to yield very good rabi crops It is too late for transplanting rice (*vide* the foregoing proverb unde Púkh), but rarely in very rich fields mash is sown. Tobacco seeds ar sown in seed-plots. Maize is reaped.

Purba (about 5th September.)—Heavy rain is required in this nakhat which is most necessary. If there is no rain, rice mostly, and all othe crops also suffer, except choumas fields that can be well prepared (*vid* the proverb under Púkh). As a rule kakun and maize, and rarel sawan and kali urdi, begin to be reaped and give food to the poor culti vators, who up to this time depend merely on mahajan's favour. Ver rarely in the fields from which sawan had been reaped, if they be ver rich, mash is sown.

Uttra (about the 20th September).—Rain often accompanied by stron wind generally falls in this nakhat, which is rather injurious to early-sown millett and bajra and is good for rice and other crops more lately sown Nothing is sown in this nakhat. Sawan, bhadela urd, makra, and ver early-sown rice are reaped, and the cultivators become happy.

Hast or *Hathya* (about 10th of October).—In this nakhat the rain i generally accompanied by stronger storms of wind, which proportionately to its force is injurious to millet and bajra, the plants of which are beate down and spoilt and their blossoms are washed away. The water is also killing to til, kodon, and cotton. As the saying is: "*Hathya bursa tin hot, lai sakkar, mash ; Hathya bursa tin jat, til, kodon, kapas ;*" that is by the rains in Hathya three things yield well—(*1st*) rice (fine), (*2nd* sugar (*3rd* mash, and three things are destroyed ; til (oilseed), kodon, and kapa (cotton). All the early rice and remaining makra and tili are reaped, and if it passes dry there is no harm.

The choumas fields are well prepared, and in some places peas, gram and alsi (linseed) begin to be sown. This is an early, but a good time for sowing the above named crops. The notice of the zemindars' demand for the first instalment of rent is announced, and on the *Dasahra* (a festival), the ryots make *shagun*, viz., give something of what is due from them.

Chittra (about 20th October).—The rain in this nakhat is considered a plague to wheat crops. It is said that a few drops in this nakhat destroy even the grass on the ground, and spoil the unsown wheat fields and the blossoms of mash, mothi, and of bajra lately sown. It is an early and the best time for sowing wheat (*vide* the proverb under Adra) and the limited and proper time for sowing peas, gram, and linseed. In short except barley, all other rabi crops begin to be sown from this nakhat.

Kodon and rice early transplanted, are reaped, and the rent demanded

Sowati (about 10th November).—Rain in this nakhat is believed to be a blessing of Providence. It is a pious belief among the people that this is the rain that produces pearls in the seas, camphor in kela, and

anslochun in bamboos; and to wheat it does considerable good. As ne proverb says: "*Ek lahra jo barsai Sowati; Kunbin pahnai sone epati;*" *i.e.*, if a slight shower of rain fall in Sowati, the wife of Kurmi best wheat-cultivating caste) will wear golden earrings. But a heavy and ontinuous shower destroys wheat seed and lately sown bajra and millet. t is the proper and a very busy time for sowing wheat, barley, and ll other rabi crops; and the reaping of millet, bajra, kodon, and tili ommences.

Bisakha (about 20th of November).—In this nakhat slight rain is elcome, but failure of the same does no harm to the rabi crop, though uch failure increases the labour of irrigation. By this time, as the seeds ave just germinated, irrigation from tanks becomes injurious, specially o wheat, but from wells it is very beneficial. On the whole, for rabi rops irrigation from tanks, in comparison to that from wells, is valueless, nd is rather considered injurious. In very rich fields, from which bajra as been reaped, sometimes peas are sown; but it is too late for sowing heat and barley, as it is proverberial: "*Sawan sawan, Bisa jao; jitna ona, utna lao;*" that is, by sowing sawan in Sawan and jao in Bisakha, ou will reap only as much as there was thrown of seed. However, on he slopes of the banks of rivers, all the rabi crops are generally sown by his time and produce well.

The reaping of late rice, mothi, mung, urd, millet, kala til, patwa, kc., is commenced; tobacco is transplanted.

Anoradha and Jestha (about 10th December).—In these nakhats month of Aghan) all the above-named crops are reaped entirely, and sugarcane-milling commences. The zemindars try to collect all their demands and mahajans realize their dues. Slight rain does much good o rabi, but heavy rain damages the kharíf harvest. There is generally o rain in these nakhats, the want of which is not felt at all.

Mul and Purbakhar (about 20th December).—In these nakhats month of Púś) sometimes frost injures several crops. Heavy rain and loudy atmosphere affect them; slight rain is very good; but if there be o rain the fields can be well protected by irrigation. Sugarcane is abundantly milled, which gives some work for labourers, and provides food both to the cultivators and cattle; otherwise the time is hard for poor peasants, specially the labourers. The cultivators are pressed by the zemindars and mahajans for their respective demands.

Uttrakhar, Surwan, and Dhanestha (about 15th January to 14th February).—In these nakhats (month of Magh) if in Sawan east wind had been blowing, there will be frost which will surely spoil the crops, specially arhar and peas, but if there be rain it does not affect them. East wind, cloudy atmosphere and frequent rain create smut, a very bad disease for wheat and barley. The fields sown lately in Bisakha specially suffer by the disease. Sugarcane is abundantly milled. The poor asamis have almost nothing to eat, except raw ears of wheat, jao, and peas. Very early sown peas are reaped, and there is no fodder for cattle, except the leaves of the sugarcane.

Suttlebekh and Purbhadrapad (about 15th February to 14th March). —In these nakhats (month of Phagun) peas are reaped abundantly and early-sown wheat also; sugarcane is nearly milled; zemindars demand their

third instalment of rent; this settles their account. By rain wheat plants are beaten down and the produce is very much reduced. The condition of the kashtkar grows a little better.

Uttrabhadrapad and Rewti (about 14th March to 15th April).—In these nakhats (month Chait) nearly the whole of the rabi crops are reaped. Rain does much harm to thrashing, &c. The kashtkar get a full meal. Mahajans and zemindars press them for their demands, and work in the fields is at an end. The only business they now have to do is thrashing the corn and in many places making preparations for sowing sugarcane and sawan. Every individual in the country as well as cattle get enough food and seem quite happy, for about two months, Chait and Baisakh. During the full months of Jeth and Asarh, till the rains begin, the people have no work in the fields, but the labourers and poor cultivators (asamis) earn their bread by being employed in repairing the houses in their own villages or in the neighbouring towns, whither they go in crowds every morning or live there.

Mahua and am fruits are another means of their support; but as soon as the rain begins in Asarh all the people return to their respective agricultural business for the new year.

What quantity of rain at the least can produce crops, and by failure of the same how far irrigation can protect them.—The want and benefit of rain in several nakhats for various kinds of kharíf and rabi crops have already been mentioned; in other words, between 30 and 35 inches of rain during the whole year, at the proper times, is quite sufficient to produce all sorts of crops. For the past five years the quantity of rain in this district has been as following:—

1873	...	...	32·2	inches
1874	...	...	33·2	„
1875	...	...	41·1	„
1876	...	...	36·03	„
1877	...	...	23·03	„

In the year 1875, the rain being 41 inches, was considered very injurious to many of the crops, such as juar and bajra; and in many low-lying places thousands of acres of rice being drowned, were destroyed entirely. According to my estimation and enquiries, about 16 inches of rain in the whole year, viz., 4 inches in Adra (June), 2 inches in Pukh (July), 1 inch in Ashlekha (August), 3 inches in Magha (August), 2 inches in Purba (September), 2 inches in Uttra (September), 1 inch in Sowati (about the end of November), and 1 inch in Purbakhar (January), can produce about three-fourths of rice and makra and the whole of all other crops, both of kharíf and rabi. Moreover, if there is a good rain in Adra, about 2 inches at least, and about the same in Magha, and a slight rain in Pukh, Shalekha, and Hasthya,—about 8 or 10 inches altogether,—the fields can be sown and reaped, provided the people have means of irrigation. Rice crop would, however, be nearly destroyed. About one-half of all the other kharíf and full or three-fourths of rabi crops can be saved in the first year, and about three-fourths or half of the quantity in the next, and half of that in the third.

5. *Chemical condition of the soils.*—It is almost impossible to say anything at present authentically or authoritatively on this behalf, as

even the very name of the science of chemistry, except within the walls of the few colleges, is not heard or known in the whole country. Of course the same is the case with geology and physics or any science, but by long experience and observations, although the people do not know them theoretically, yet they have become acquainted with the principles of the latter sciences. But the phenomena of chemistry being quite inperceptible, generally speaking, no one has as yet heard or has any reason to believe that their earth, mountains, and plants are composed of 63 different elements. It is entirely beyond the knowledge and understanding of the people to have any idea of any of the constituents of the soil or the plant food. Practically, of course, they know the benefit and use of manures, and thereby supply the deficiency of plant food, but they have no idea whatever of their elements, constituents, and of the reactions they are subject to. With the exception of a very few and especial occasions, no extensive efforts have as yet been made by the Government also to obtain a thorough knowledge of the chemical composition of the Indian soils, of manures, of plants, and of human food, &c. However, from as much knowledge of the subject as has been obtained as yet, it seems that, like other gifts of the nature (geological and physical), the chemical conditions of the plain in question, are naturally favourable to agricultural purposes, and the vitality of plant growth. From the following table of the analysis of Indian soils, which have been compared with the analysis of the soils of England, it will be seen that even the sterile soil (usar) shows not a single constituent that could be accounted detrimental, but, on the contrary, the constituents that are essential for plant life are in a fair proportion. It is certainly the case, that ordinary chemical analysis is not sufficient to indicate the actual fertility of the soil, because the conditions in which the different compounds undergo changes, and the elements act upon each other in a field under the influence of the natural agents and surrounding causes are quite different from their being analysed in a chemical laboratory; still at any rate from these analyses it will be understood, that naturally they are not different in matters essentially necessary for the growth and nourishment of vegetation.

For making analyses the samples have been collected from different parts of the Province. Three samples were obtained through the officer of the Department of Agriculture and Commerce of the Province, and many other samples were obtained from Oudh. Three or four from each division, and from different districts of the division. Also care was taken to collect samples of different varieties of the soils such as Matyar, Domat, Bhoor, and Usar; and of the surface as well as of the sub-soil. A few of the important ones have been analysed by myself, and for the sake of accuracy one Domat soil from District Roy Bardi, village Dedour, and one Usar soil from Lucknow District, village Kanousi, were analysed by Mr. Edward Kinch, F.C.S., F.I.C., &c., Professor of Chemistry, at the Royal Agricultural College, Cirencester. The Professor remarks about the soil as follows: "These two soils (Nos. 1 and 3), are evidently formed from the same rock, the sand is principally quartz, with a good deal of Mica." "No. 1 (Domat), contain much more of the valuable plant food constituents, phosphoric acid, lime and potash, and is more

PARTIAL CHEMICAL ANALYSES OF SOILS FROM THE

WITH THE CORRESPONDING ANALYS

Number	Description of Sample	Name of the place from which Sample was obtained		Moisture in Air-dried Soil	Orgi mat and bir Wa
		Division and District	Village		
1	From Uprahar—Choumas. Wheat field—(Surface soil)	Roy Bareli	Didour	1·48	2·
2	From Matyar— Manured field—(Surface soil)	Nawab Ganj Lucknow	Gadya	2·92	–
3	From Usar land—(Surface soil)	Lucknow	Kanousi	·46	·
4	From Usar land—(Sub-soil)	Pratab Garh Roy Bareli	Bazidpur	2·5	–
5	Not known, No. 1	From Department of Agriculture and Commerce, N.W.P. and Oudh		2·45	–
6	Do., No. 2	Do.	Do.	1·79	–
7	From Bradwell Grove—(Surface soil)	Oxfordshire	Burford	3·82	4·0
8	From Experimental field of R.A.C. Farm, on *Oolite*—(Surface soil)	Gloucestershire	Cirencester	7·4	9·5

OF NORTH WESTERN PROVINCES AND OUDH, INDIA,

) SAMPLES OF SOILS FROM ENGLAND.

Percentage Composition of Soil dried at 100° Cen.								Remarks.
land and Silicates nsoluble a Hydro-chloric Acid	Oxides of Iron and Alumina	Lime Ca O	Magnesia Mg O	Potash K_2O	Soda Na_2O	Phosphoric Acid P_2O_5	Soluble Saline Matter §§	
89·38	4·11	·69	—	·68	·11	·26	—	*Analyst*— Professor E. Kinch, R.A. College, England
84·70	9·34	·30	—	1·20	·40	·19	·60	The Author
93·94	3·83	·38	—	·24	·11	·07	·78	Professor E. Kinch
90·09	9·04	·37	·19	·35	·78	·17	·39	The Author
82 77	—	1·91	—	·06	·89	·09	1·49	Ditto
85·5	—	1·23	—	·76	·53	·19	·86	Ditto
84·05	9·03	1·06	—	·69	—	·20	·97	English soils for comparison with above soils
65·28	17·73	2·95	·88	1·11	·39	·39	—	§§ Qualitative test shewed presence of Nitrates, Chlorides and Sulphates

retentive of moisture than No. 3." "No. 3 (The Usar) contains very little organic matter, and being almost entirely sand, has scarcely any retentive power for water, to this its sterility must in a large part be ascribed ; it contains all necessary plant food, but some constituents as phosphoric acid in a very limited quantity. The amount of saline matter present, though rather large, is not sufficient in itself to cause sterility."

From the quantitative analyses table, it will be seen that the quantity of the various constituents differ very much in Indian as well as in English soils. This variation of course depends on many circumstances to which the soil is subject. For instance, the Burford soil (Oxfordshire), pretty nearly resembles the Indian soils in all constituents. While the soil of field No. 2, used for experimental plots (at the College, Cirencester) in comparison with the above differs in per centage, having water 3·58, —nitrogen equivalent to ammonia, ·175—phosphoric acid, ·19—potash, ·42—and lime, 1·89 more, and sand 18·77 per cent. less than the other. The great difference in the quantity of sand and lime is due to the experimental plot being on an oolite limestone bed, while the other is on clay. And the difference in the amount of phosphoric acid, potash and nitrogen is perhaps due to the latter having been more richly supplied with artificial manures. But this difference does not mean that the difference of the productive power of the two fields would be in the same proportion. As a rule, the fertility of a soil depends on the minimum of all the valuable constituents, and not on the maximum of one of them.

From the above mentioned example, we can assume, that although the Indian soils show differences and low percentages in some of the valuable matters, yet they are by no means inferior to the soils of England, which produce more than the fields in India. It is only due to artificial means and not to natural causes that our land does not yield so much as land in England.

N.B.—For providing artificial means money is the chief power which our farmers do not possess.

The most essential and valuable constituents for plant life and growth are : 1. Nitrogen in the form of ammonia and nitrates. 2. Phosphoric acid. 3. Potash. 4. Lime. Further, these should be in an available form. And the most hurtful are : 1. Compounds of iron in the form of ferrous salts. 2. Saline matters in excess. 3. Lime and Magnesia in caustic form. Moreover, only an excess of these is hurtful, and in certain quantities they are even beneficial. From the few analyses that have been made for the sake of example, it seems that all the soils contain all the essential and valuable matters in sufficient quantity, and in an available form, while the hurtful matters seem to be absent. Even the analysis of the very sterile soil (Usar of Kanousi village) made by Professor Kinch, does not show any chemical defect; on the contrary, the saline matters which are generally supposed to be the cause of sterility of this land are quite below the amount that would be considered necessary to account for it. One of the samples of a subsoil of the same nature (No 4 of the village Bazidpur, District Pratabgarh) has given still better results. The quantity of nitrogen, of phosphoric

acid, of potash, and of lime is very fair indeed, and of soluble salts, very low. Moreover, on testing the soluble salt obtained from the soils in question, there were found hydrochloric, sulphuric, and nitric acids in a very fair quantity. These conditions are all favourable to vegetation, and show that the barrenness of the soil is not due to its composition, but that there are some other conditions which have made the vast tracts lie useless. It is evident that all the difficulties that are not due to natural causes can be overcome by the artificial means, and persevering exertions. But, of course, this requires nothing else but energy and capital, and these unfortunately we do not possess.

Not only the chemical analyses, but certain facts also prove that our soils are naturally very rich in the valuable matters necessary for plant food, or have some means of accumulating them by the influence of some natural agencies. The patent fact is this, that from time immemorial the land has been under cultivation, and still is not exhausted. The name of artificial or purchased manures is totally unknown in the country. The only manure which costs something to the farmers, is the excrement obtained by keeping the shepherd's flock at night in the field. But very few people can afford it, and they employ the flock only for their wheat and sugarcane fields. (For other particulars of this, *vide* the paragraph on wheat cultivation.) The only artificial stimulant for the growth of the crops they provide, is the farm yard manure, or animal excrement. Many of the poor asamis who have not plough oxen of their own, for years and years do not supply even this manure ; they simply burn the stubble and some wild plants or their leaves, and thereby produce something from their fields. What is termed mineral or cinereal manures no one has ever heard the name of. To some crops such as tobacco, melon, cucumber, and sawan, the scrapings from the old mud walls, which very likely contain potassium or sodium nitrate are applied. Besides these, no other manure is known. This itself shows that the wants for the vitality of plants is mostly supplied by the soil or by nature. There can be no doubt of the truth of the above remarks when we see that the land in all parts of the Province is so very rich in saltpetre (potassium nitrate) and in sodium nitrate, as well as in common salt, (sodium chloride,) that they could become a source of fortune if we could avail ourselves of their manufacture and their trade. In some places the deposits of these compounds are so excessive, that they have become the cause of the sterility of the soil. It is certainly a blessing of Providence to provide these stores of the essential matters of plant food, but we do not know how to derive the full benefit from them, how to distribute them to those parts of the country where they are deficient. From these stores the necessity of cinereal and nitrogenous manure is supplied. What the farmers in England purchase and have to pay for, viz., nitrate of soda, or chili, saltpetre and sulphate of ammonia, our soils have got natural stores hidden in them. The phosphoric manures only seem to be wanted from outside, and they are more or less supplied by means of the farm yard manure from dung and from its ash. But owing to the ignorance and poverty of the people, the full advantage of these is not and cannot be drawn. The reason of this will be given hereafter.

Had nature not been so bountiful as to supply us with these

inexhaustible stores; and had the natural agencies not been so favourable as to prepare and make them available for plant growth,—in such a miserable condition it would have been quite impossible for so thick a population as 582 per square mile in the Province, to not oniy maintain their own existence, but also to send abundantly the produce of the land to foreign countries.

6. We should not pass on without adding a few words about our people belonging to the agricultural occupation, and let the reader know how industrious, hard working, and thoroughly experienced in their business those men are.

As we have stated above, the average holdings in the united provinces of N. W. P. and Oudh per farmer, having a family of four persons, is only 7·78 acres. Some of them might have larger farms than that—about 50 acres at the most—but the majority of them are peasant farmers, who take leases of still smaller holdings, generally of two or three acres, and work on the farm by themselves, assisted by the members of their family. Most of these peasants have their own plough oxen, but some unfortunately have no means even to buy a small team, which costs no more than 30 or 40 shillings. To work their land, they either borrow the oxen from their relations, or hire them.

A peasant gets up before the break of day and goes to work in his field. If there is not enough work in his own holding, the other members of his family, in order to earn their daily bread, will go to work as labourers for other farmers who have not enough hands or possess large holdings. The peasant begins ploughing, watering, or any other work that is required in the field from before sun rise, and will leave it for an hour just at noon without drinking a drop of water or eating a mouthful of grain during this time. Now at 12 o'clock he will wash himself and take his breakfast, which generally consists of fresh water and parched, or water-steeped grain. Those who can at this time also afford a meal of the cakes of coarse grain, with vegetable, raw sugar (gur), or whey, are considered well to do. At one o'clock he again begins to work, and leaves it an hour after dusk. Now he returns home, cuts the chaff for the oxen, and afterwards takes his full meal; cakes of millet meal or rice, (coarse) 2lbs. and pulse vegetable, or whey enough to give flavour to the cakes Sometimes for luxury the cake is fried in mustard oil, milk, and millet meal puddings are made; green grains—as peas, &c., mahwa and mangoe fruits in season make a variety of dishes, and are substituted for the cakes, to some extent. After finishing his meal, he comes out of the hut, and sits at his door under a tree, to enjoy the fresh air, and rest after the hard work; and at the same time he remains chewing or smoking his tobacco, and designing plans of the next day's work. At 11 or 12 o'clock he will sleep either under the same tree or inside the hut on a cot. In summer there is no mattress on it, and in winter the beddings are generally made of straw.

This is the routine of the simplest daily life of our peasant farmer. The farmer of a high caste, such as a Brahmin, a Chhetri, or a Kaeth, or the farmer who has a large holding, generally does not work with his own hands, but employs labourers, and himself supervises them during the whole time. In his mode of life he is not so badly off as the other;

and his full meal consists of the cake of barley, Dori seed, or wheat flour and other purchased vegetables, such as potatoes, &c. Milk, butter, and whey (if he has milch beasts) are his luxuries; and he possess stronger cattle, a better house, linen, blankets, and mattresses for his comfort.

Of course the peasant has received no technical education of any kind in his business, except some of the local proverbs, a few of which, for example, have been written in the foregoing paragraph, No. 4 of this chapter; theoretically, he does not know anything about his occupation, but his long experience has made him master of every secret upon which the success in producing crops depends, and has taught him every method which is required for the improvement of agriculture. He of course does not know *how* and *why* such and such a process does good, or such and such work is necessary; but certainly he is thoroughly aware, and perfectly confident that the different processes and works will produce certain results. For instance, he does not know that by tillage, and making the particles of surface soil loose, and stirring the subsoil, the air and water get free access into the pores of the soil; so that by the action of oxygen and carbonic acid the organic matter from stubble, and inorganic or mineral matters from the soil, will be available for plant food; or that the locked-up nutritive substance will be converted into useful forms; but he knows that by making the surface soil porous, and leaving it exposed to the air and rain, he will produce a good crop. He does not know that organic manures, such as farm-yard manure or fresh dung, require to be oxidized in order to convert nitrogenous matters into ammonia, so as to ferment them before application; but he knows the advantageous results of this process; and consequently he prepares *khad* from fresh *pans*, viz., he mixes the dung and litter, &c., and makes a heap of it, in order to rot them. In the same manner he does not know the reason that the ash constituents are added to the soil by burning the organic matters, and spreading the ashes; but he knows the good of this process, and therefore burns the wild herbs in his field, and mixes the ashes of the fuel and the dung which he uses for cooking his food to the heap of the khad (farmyard manure). In short, on the whole there is nothing which is practically necessary for the agricultural purposes, of which he has not a thorough and a sound knowledge.

7. All the above-mentioned natural facilities in the way of agriculture, and in addition, the abundance of labour, through there being no other work for such a thick and an increasing population, and the people having consequently to work hard for their one daily meal, consisting of dry cake of the coarsest grain, in order to keep their existence; these reasons combined are the cause why India with such crude methods of farming, little outlay, and no artificial means of improvement, produces so much that she keeps thereby all her economical transactions alive.

Agriculture not only keeps the existence of the poor victims of misery (60 per cent. in population), but provides a good Government, to govern a powerful army to defend and protect, police and choukidars to keep order and peace, and law courts to do justice. Not only this, but provides luxuries for landowners, business for money lenders, interest for foreign capital, treasures for the selfish rich people, who carry the wealth

into the dead account, by keeping it locked up in their boxes. Not only this, the agriculture requires and provides the making of railroads, and the traffic of steamers full of cargoes on the Indian coasts, and above all it causes the industrial people in other countries to make everything for us that is useful, or is supposed to be needed for the improvement of the country, be it a pin or a railway engine. Yet, whatever progress in the exports and imports the Financial Statistics may show, whatever development of highways, railroads, and canals, the administrative report record; however individual wealth may flourish! *alas!* the circumstances of the people who are the backbone of all this national business, viz., of those who till the land, is going from bad to worse, and no regard whatever is paid to the nature of their hard work and their harder life.

8. We believe that by giving an example of all the processes of the cultivation of a crop from the beginning to the end we shall make the matter of this chapter more clear. The reader by this will be able to form a clearer idea of the productive power of the land, of the expense and the produce per acre—of the simplicity of the work in India—the crude methods of cultivation—the difficulties of the poor farmers—their hard work, and small remuneration. And above all he will be able to understand, what we have to treat of hereafter, that is, the needs of the farming interest in India, and the difficulty of introducing the necessary improvements. For my example I take a typical crop of wheat, and append herewith a memorandum written by me on the same subject in 1878, which is as follows:

The soil and conditions suitable for wheat crops.—The best fields in which wheat is generally sown are choumas.*

Choumas are the fields which are left under bare fallow for a year. Generally in a year only one crop (wheat) is grown in choumas, but sometimes with hard labour and the aid of manure, a catch crop (of Jethaoo Sawan) is taken from Jeonar. The wheat also grows in the fields called Jhotail, from which a kharif catch crop of makra, kakun, sawan, kuari rice have been reaped early in the month of September (kuar.) But in a jhotail field a crop of wheat can only be grown with hard labour and by putting abundant manure. Barley is generally sown in such fields. However the crop raised in jhotail is not usually so good in quality or quantity as that of the choumas.

Besides choumas field wheat is generally cultivated, and thrives very well in khutail,† masail ‡ and peri § fields, but very seldom in jeonar field, and if ever it requires great labour, expense, and a good quantity of very rich manure. Sowing wheat in jeonar, which means wheat after

* Fields in which wheat is to be sown are called choumas, and after the crop being reaped are termed jeonar. So also barley field after being reaped is called jeonar.

† Khutail = The field in which Til (oil-seed), juar (millet), arhat (pulse) have been sown in Asarh (June or July), and reaped about the beginning of October.

‡ Masail = the fields from which Mash (pulse) has been reaped in October or November.

§ Peri = field in which sugarcane has been cultivated.

wheat, or after barley exhausts and impoverishes the land and crop does not thrive well.

Manuring.—The first process in cultivation of wheat is putting manure in the field, which is generally done in May and June, when harvesting of the year is finished, and no work of farming is in hand. Thirty large basketfuls per acre (one load per biswa) of farm yard manure is put down, and it is spread and ploughed in at the beginning of the rainy season. After the ploughing is done and the field well prepared, a few days before sowing seed thrifty farmers employ a shepherd to keep his flock of sheep for one or two nights in the field. This is considered the most beneficial manure for the crop, and is the only manure for which they have to pay something. For providing this manure for one bigha two-thirds of an acre, they have to pay to the shepherd 24 to 30lbs. of grain. The shepherd keeps his flock of sheep for two or three nights in the field, and remains himself there, shifting the sheep a whole night from one place to another. The sheep of course belong to the shepherd (Gararya.) *Vide gaɪaɪya in Appendix.*

Ploughing.—The best mode of preparing choumas field for wheat is, to plough it once in every nakhat, which there are 27 in a year. *(Vide* nakhats in paragraph No. 4.) But in the Province they commence ploughing choumas from Asarh (June or July) Adra nakhat, and finish it in the month of Katick (November), till Chitra and Sowati nakhats, when the seed is sown.

N.B.—The implement which is used for tilling land in India in comparison to the English implement used for the same purpose can hardly be called a plough. Its cost is about two shillings, and being of the very simplest kind, necessarily, it has to be dragged several times over and over to prepare a wheat field thoroughly. No improved implement, for two reasons can possibly be adopted at present in India. Firstly, on account of its cost, which the farmers generally are unable to bear, and secondly, owing to the weakness of the plough oxen, which cannot drag a heavier implement.

The more a field is ploughed the more productive it is. The minimum number of turnings over or ploughing of the soil, is 10, and the maximum 30. But Kumbi and Moorai (the best farmers) usually plough their fields 20 times, and a common Kashtkar about 10 or 15 times. The way of ploughing in the rainy season is different from that adopted afterwards. In the rainy season the furrows are cut deep and broad; while after the rain—from November—they are made very narrow and deep. With one plough, worked by two good bullocks and one man, a bigah (two-third of an acre) or at least 15 biswas* of land is turned over in one day in the rainy season; but from Katick (November), not more than from 8 or 12 biswas can be ploughed. In some districts when the soil is not hard clay, but is sandy or mixed with sand, neither very hard labour, nor very strong bullocks are required for ploughing; the plough tail is made short and the ploughshare is more upright, so that in a few turns the fields are torn to the required depth. In lands having hard clay soil more labour and stronger apparatus are required to bring the fields

* 30 biswas = 1 acre.

into useful order. After every ploughing the clods are well broken by means of a heavy piece of wood dragged by four bullocks. This operation is called Sarawan or Pahta karna (rolling.) After this the smooth surface of the field is divided into beds ; if they are to be irrigated from wells, the beds are made smaller, viz., from 150 to 200 in one bigah, (two-thirds of an acre), but if by doogla they are made larger, from 80 to 100 in a bigha.

Sowing.—The month of Katick (about the end of September), when Chitra Nakhat commences is considered the best time for sowing the wheat, and it continues till Sowati Nakhat and rarely till Bisakha. The Brahmin of the village is consulted first to fix the moment or time to begin sowing, and at that very moment, a man of the family whom the Brahmin nominates, as likely to bring good luck, if he commences the sowing, goes to the field, and with his own hands sows a handful of seed in a corner of the field which is selected by the Brahmin. After this, all the fields belonging to the man who thus performs the ceremony (called mooth lena) can be sown at any time, when leisure permits, and by any man whether a member of the family or a hired labourer. The same sort of ceremony is performed at the commencement of ploughing ; Brahmin Chatris and Kaiths do not touch the plough with their own hands, their labourers act for them. When the seed is taken from the house into the field the mistress of the house keeps back a small quantity of it, and when all the fields are sown, she adds more grain to the portion retained, and distributes it to the Brahmin, the ploughman (Harwaha), and the other labourers and drivers who were engaged on the work. Sometimes the Brahmin gets other perquisites for fixing the time for "Harahi and Moothleni." In this country as far as I have seen, sowing is invariably done by hands The ploughman drags the plough ahead, and a woman or a man follows with a basket of wheat on the head, and with one hand throws the seed into the scratches made by the plough.

Seed.—In 1 puka-bigha (two-thirds of an acre) from 45 to 50 seers (about 100 lbs) of seed are sown, but the average rate is about 50 seers per bigah. When the seed is taken for sowing by the petty cultivators, it is sifted and cleared before being sown, in order to get rid of weeds ; but the cultivators of large farms cannot do this. The well-to-do farmers who have seed [called Bisar] of their own, are at a great advantage ; but the poor assamis who are generally obliged to borrow it, pay dear. The conditions of advancing seed (Bisar) are different, but the most common terms are *Sawai*, *Deorhi*, and *Barmola.* In the month of Katick (October) the seed is borrowed by the asamis (petty tenants) from the men who have stores of that grain in the neighbourhood, and who are called Beohars, Mahajans, or Maldhanis.

Sawai is $1\frac{1}{4}$, *i.e.* for every seer of grain lent in the month of Magh (January), $1\frac{1}{4}$ seer would be taken when the products of the asamis fields are thrashed (25 per cent.)

Deorhi prevails more commonly in this eastern part of the country. By it, for every seer of grain, $1\frac{1}{2}$ seer is repaid (50 per cent.) However, though this rate is called Deorhi, it is not generally reached strictly, and they have to repay at the rate of 11 seers for 8, though 12 would be the full number.

In some places for the Bisar borrowed in Kuar (September) 50 per cent. is taken as interest, but if it is borrowed in Katick (October) 11 seers for 8 seers would be given.

When the grain is very dear, I have noticed in many places in this district that the Biohars are not satisfied with the above terms; they then value the grain with money. For instance, if the market rate is 10 seers per Rupee in Katick, they would give 10 seers to the asami; and if in the next Chait, the market rate decreased to 30 seers (though it might not remain long at that price), they, instead of receiving but 15 seers, would receive 45 seers (the value of 1½ Rupees.) This term is called *Barmoli*.

Weeding.—Although many weeds grow in wheat fields, and their seed being mixed with the grain, spoil the purity of the sample, yet no weedings are done. Were the fields cleared of the wild grass, the produce would undoubtedly be more profitable; but owing to the expense, farmers never attempt to weed any rabi or wheat fields; indeed they consider it useless and even injurious to the field, because they say if they attempt it, their crop is seriously injured, through being crushed under their feet, as the seed is very thickly sown.

The following weeds grow with wheat:—Akri, akra-chapri (leguminous herb—wild vetches), titli, kauriana (or bundal), bhaloli, munmona (or mada), gajra, mikha, bathwi, and gobbi.

Akri and akra produce a sort of pea-like seed, which is very poisonous if eaten in large quantity. I have heard that a man would die if he ate a meal of it. However, poor men collect the seed, and after steeping it in water for two or three days, make flour of it, and mix a small quantity of it with other meal, to make bread. It is good fodder for cattle.

Bhaloli and Munmona are given as food to domestic fowls.

Gajra and Batwi are eaten as vegetable herbs.

The latter is considered very wholesome when boiled with "Mash ki dal." Cattle also are fed upon them when the herb is green.

Mekha and Bahloli mostly grow in the fields in Kachar (river side).

In these fields which are not sown with sifted seed, sometimes the seeds of these weeds form as much as one-fourth; but the average proportion is from two to five seers per forty seers (one Maund). If the farmers sowed only sifted seed or found opportunities to weed their fields, the produce would certainly be greatly improved.

Watering.—The watering depends on the means of the cultivators and the kinds of soil. In *matyar* clayey land, by rich cultivators as well as by Kurmis or Murayis, the fields are irrigated three times, but in *balua* (sandy) from once to twice. In low and moist land and generally on kachar (banks of rivers) no watering is required; but when the soil is too moist the crop suffers. The methods of irrigation are different and greatly depend upon the proximity and command of water; but commonly there are three methods: dugla, pur, and dhekli. Dugla, beri, or douri are the same. It is a light basket with four cords attached to the rim, which are held by two men, and is always used for raising water from tanks, jhils, and sometimes from rivers and nalas. The dugla basket is plastered either by *bel* fruit pulp or resin dissolved in oil in order to make it watertight. If the water be near and the

ground from the field to the water level, they carry on their work with one dugla only, but otherwise sometimes with four or five. For each dugla four men are employed who work by turns, and their wages are greater than those of the *harwaha*,* but they have to work from about 2, 3, or 4 a.m. to 6 p.m., viz., from 14 to 16 hours. To each of these men from 30 to 34 gandas† of grain are given by the zemindars and beohars,‡ but the common people have to give something more as tobacco and chabena. This is the average rate of wages, but the terms vary in every paragana, though not very much. From one dugla, if the water is not very close and there is no strict supervision, only 2 bighas (1½ acres) of land are irrigated in one day; but if the water is close by the field and the surface of the field is level, from 2 to 3 and sometimes 4 bighas are irrigated in one day with one dugla. The aggregate cost of irrigation of 2 bighas with one dugla, if the grain be sold at 20 seers per rupee, is about Rs. 0-7-0, or 3½ rupees per bigha. The grain of the cheapest kind of the time or mahua is given in wages, and whether corn is cheaper or dearer, still in the rate of wages as a rule there is no difference.

Watering from tanks, &c., with the dugla is not considered as good for the crops as irrigation from wells. Just after the seed of wheat has germinated, watering from dugla is injurious.

Watering from wells is done in three ways—(1) Gharra, (2) Pur, (3) Dhekli. Also, the wells are of three kinds—(1) Large brick cylinder wells (Indaras), (2) Katcha wells on firm clayey land, (3) Temporary wells. Nearly in the whole of Patti tahsil the water being very near, is generally drawn by men instead of bullocks. This is called *gharra*. In one gharra from five to nine men are employed, besides the man who holds the water bag; but generally seven men do this work here from sunrise to dark, and in some places they have no interval even at midday. The wages of these labourers vary from 24 to 30 gandas of grain per diem. From one gharra 7 or 8 and sometimes 10 biswas§ of land are well watered; but from pur, which is drawn by bullocks, if the water is at the depth of 60 feet, from 2½ to 3 biswas only can be irrigated in one day. The average cost of irrigation from gharra per bigha is about Rs.‖ 1-8-0, and from pur, if the bullocks and coolies are all hired (the rate of which is about 6 annas per diem), is about Rs. 2-8-0; but the cost increases or decreases according to the depth and distance of the well, labour of the coolies, and surface of the field. If the surface is uneven, more labour is required to finish the work, near large jhills, and on the banks of the Ganges dhekli is used for irrigation. A very small kutcha well is dug for the purpose, and at a little distance from the well a pillar is made and a long pole of wood is placed upon it. The longer part of the pole remains towards the well and the shorter part on the other side, on which, to keep a balance, a load of mud is fastened, and to the longer end of the pole towards the well a small rope is attached, and to the rope an earthern pot called *kund* is tied; and a man standing o the well lets it down and draws it up when filled; the lever which bears

* Ploughmen. † 14 gandas=2 lbs. ‡ Mahajan who lends grain to asamis.
§ 32 Biswas=1 acre. ‖ 1 R=16 annas, or 1/8.

the weight on the other end helps to lighten the weight of the kund. These dheklis are used only by the Kewats, Kachis, and Murayis, &c., in their own fields, who by this means and with hard labour, cannot irrigate more than one or two biswas, because they cannot get sufficient water out of the well.

Besides pucka indaras (large wells), small kutcha temporary wells are also dug near the fields in some of the places where water is out of reach and the soil is not quite sandy; but such wells are of use only for the time the watering for the fields is required, and being useless, are filled up afterwards. So the cultivators have to make such wells every year.

Times for Watering.—The time of watering is once in from 12 to 20 days, or at least a month after the seed germinates, and secondly, when the field is about to blossom, that is, a month after; and thirdly, when the field is in ear, viz., 20 days after the second irrigation. This (viz., three times) is the maximum amount of watering required for the wheat fields. Only very laborious and well-to-do Kashtkars, Kurmis and Murayis can afford three waterings; others leave them with one or at most two only. In ordinary seasons barley and peas require only one watering and yield very good crops; but if there is not sufficient rain in the rainy season, especially if the Purba, Uttra, Hast, and Sowati nakhats pass dry, before sowing seed, the fields are once filled with water in order that they may be ploughed and the seeds may germinate.

Diseases of wheat.—Clear sky and west winds are very favourable for wheat, and if in Katick and Aghan (November and December) there is a little rain, it does much good to the crop, but east winds and damp atmosphere are injurious to the crop.

Garwi (dust bran).—Dhora—Gando are the pest or diseases that do most damage. Garwi is a reddish dust like fungus begins to creep upon the plant from the root and spoils it, as well as the seed in ears. If a little rain falls, followed by west winds, the fungus is swept away, and if the sky remains clear it dies out altogether. A crop injured by Dhora (perhaps smut), becomes yellow, and the ears black. If the weather improves soon after the beginning of the disease, the crop recovers, otherwise it is spoilt altogether. Gando (bunt) is a disease in which seed becomes black and bitter. Besides these frost and hail damage the crop considerably. Some flies (of deptera and neuropter tribes), especially locusts, are very injurious pests. Heavy storms of rain in the months of Phagun and Chait (March and April), and stormy winds, by which the crop gets lodged are injurious. The average losses from these causes seem to be about the same as in the nawalic time.

Varieties of wheat generally sown in this country are (a) Tunrwa (bearded or awned), (b) Murwa (beardless or un-awned). In the neighbourhood of Lucknow and other districts, I have seen many other varieties, such as Tamila—Daud-khani—Katya Medahi, &c The two kinds above are, however, by far the most generally used throughout Oudh, Tunrwa, and Murwa.—These are quite different from each other in external appearance and also in internal qualities. The ear of the Murwa wheat grows smooth, *i.e.*, has no hair (Tunr); the Tunrwa on the

other hand, has it. The Murwa seed is whiter in appearance and more healthy than Tunrwa ; but for ease of grinding and for purposes of food, the latter is far better. I am told that the Murwa is hardier, and its fields require less ploughing and rolling. The Murwa is of two kinds, (a) (white), Sapeda or Daodi (probably the same as Daud-khani), and (b) (red) Lall or Lalkawa. Tunrwa is also of two kinds (a) Seta (white), and (b) Somanwa or Lalkawa (red). In the market there is very little or no difference in price.

Reaping.—The wheat sown early in Chitra Nakhat (October) is reaped in the month of Phagun (March). But the proper time for reaping common sowing is in the month of Chait (April). The crops become ripe within four-and-a-half or five months on an average. When they have to reap the field the Brahmin is consulted first. One bigha can be reaped by eight or ten men in one day ; and if the Pharwar or Aphar (stackyard) is within a quarter or half a mile the same men can carry the outturn of the field to the place. The rate of wages, as I have mentioned above, varies in different places. In some places the labourers get 16 gandas of grain per day ; in others one sheaf for every thirty sheaves reaped ; but if they reap or carry the product to Pharwar, thrash it and carry the grain and straw to the house of the owner, they receive one-sixteenth of the grain, and for Binya (gleaning), or picking up the ears left here and there after the field has been reaped, the regular workmen of the field would get one-third and the outsider one-fourth. But this work is optional to the workmen ; the owner cannot force them to do it, or appoint any other men for it. When the regular labourers have leisure they do it without any supervision, and bring the ears thus collected to the owner. Then, when it is thrashed, the grain is divided between the men. After this gleaning or Binya the field is swept, and the dust sifted, in order to gather the grain that has been mixed with it in reaping or by accident ; this is called Baharna. In some places, the harwaha receives all the grain thus collected, but in some places one-third of it would be taken by the owner. But if the field has been destroyed by hail, or the crops have been beaten down by unseasonable heavy rain, in such cases the owner would receive one-third of the quantity. Besides the wages of his labourers the owner of the harvest has to give out of his crop a share to the Brahmin (the priest), Dhobi (washermen), Darzi (tailor), Mehtar (sweeper, if any in the village), Bhat and others who had been working for him, or by the custom of the place are entitled to tithe, and he has also to pay to the Mahajan the seed with interest. (*Vide appendix.*)

Thrashing.—As the wheat straw is used here for two purposes ; namely, for thatching and for fodder, it is thrashed in two different modes. If the straw is intended for thatching, which is called Narai, the grain is separated by beating the ears with wooden hammers and the narai is then tied in bundles which are sold at the average rate of a rupee for 200 bundles. But most commonly the wheat is thrashed by dainris, that is the treading of oxen, of which four are usually employed. If the wind blows from the west, the work is done sooner than during an east wind. At an average rate, two dainris or eight oxen can tread

out the out-turn of one bigha in four days. But if the wind is quite dry it takes less time.

Winnowing.—Winnowing also depends entirely upon the force of the wind. If the wind is strong the out.turn of the bigha is winnowed by three or four men in one day. Standing against the wind they lift up the baskets filled with the mixture of straw and grain which has been trodden by the oxen and then pour out the contents; the straw being lighter is swept away by the wind, while the grain being heavier is separated, and falls straight to the ground.

Average out-turn per bigha (two-thirds of an acre.) (A.) Grain. 1. Wheat alone. 2. Wheat with other grain. (B.) Fodder and straw.

It is impossible to fix a standard rate for the out-turn per bigha. It depends on various circumstances, as the quantity of soil, nature of labour, the means of irrigation and more particularly on the supervision of the "masters eyes," and the goodness or badness of the season.

If the work is carried on mainly by hired labour, the profit to the owner is of course small. However, the following calculation is the approximate average of the value of the out-turn per bigha.

A Bigha of Matyar land, of a rental value of Rs. 6 = 10s. per annum, kept choumas, or after bare fallow with 20 times ploughing, three times watering at the due and proper times; attentively supervised by the owner—in favourable season, and uninjured by accidents and diseases (smut and bunt), should yield an out-turn of 40 loads, each load containing one Katcha Maund* of grain, and from $1\frac{1}{4}$ to $1\frac{1}{2}$ maunds of straw; in other words, 14 puka seers (32 lbs.) of grain, and 16 or 20 (40 to 48 lbs.) of straw. Thus in a bigha = to two-thirds of an acre, there are 14 pucka maunds (1280 lbs.) of grain and 16 to 20 maunds-pucka (1606 to 2007 lbs.) fodder.

On the head-land of the fields and the borders of the beds, it is common to sow with the wheat, either Kusum-Barrai (Saf-flower), or Mustard. Eight lbs. of Barrai seed yield about two stones (14 seers), besides the flower which is used for red dye. One lb. of Mustard produces 10 seers seed. The sowings, however, materially diminish the yield of the wheat.

The above example has been selected from the comparatively very high condition of farming, and all sorts of favourble circumstances. On the whole, farmers very seldom find such good opportunities, and are able to grow the crop by such perfect methods of husbandry, therefore the average yield of the whole country is what has been stated in some other places, and is given in F.C. and the Census reports, viz., 10 or 11 Maunds. The reader must remember this fact, and should not make confusion between the two estimates.

Cost and return of a crop of Wheat per Bigha, two-thirds of an Acre.—It seems necessary to give a detail of the cost of growing a bigha of wheat, work of husbandry as above mentioned, and yield the same—14 Maunds of grain; as well as the return from this crop and the net profit

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* 7 gandas=1 lb. 14 gandas=1 bazaar seer. 40 seers=1 Imperial Maund.
16 gandas=1 Pucka seer. 40 seers=1 Pucka Maund.
1 Pucka Maund=to 3 Kutcha Maunds.

to the farmer; the following calculation will give a fair idea of the outlay and of the profit:—

The cost of raising a bigha of wheat to a farmer who owns the agricultural apparatus, oxen, and seed, and who does not work with his own hands, would be as follows:—

Rent of land of moderate quality, not too far from his dwelling, Rs. 6.

Cartage, &c., for manurage in the months of Baisakh (about May and June), Jeth, Asarh, &c., Rs. 2.

55 Seers seed, at the rate of 20 Seers per Rupee, Rs. 2-12.

Harwahi ploughing (at 4 lbs. grain per diem, the average value of which should be calculated at about one anna) for 20 banhs, *i.e.*, 20 times ploughing Rs. 1-4.

Boai (sowing), four men at the above rate, Rs. 4.

Purwahi (watering) three times by Gharra, the depth of the well being 60 feet exclusive of charges of apparatus (63 men at the above Rs. 3-15.

Katai and Dholai (reaping and carrying), eight men at 2 as., Rs. 1.

Maudai (thrashing), with fair (west) wind, 10 men, Rs. 10.

Usai (winnowing), with fair wind, three men, Rs. 3.

Total, Rs. 18, or £1 10s.

If in the next year the price of the wheat were the same as estimated for the seed, viz., 20 Seers per Rupee, and the crop were favourable enough to yield the quantity estimated above, viz., 14 Maunds; at this rate the receipts for the wheat would be Rs. 28. The owner would receive in addition, Rs. 4 or 5, the value of the fodder, at the rate of 4 Maunds per Rupee.

The total value of the product is therefore Rs. 33 (£2 15s.), leaving a balance of Rs. 15 as profit to the cultivators. Those Kashtkars (cultivators) who have to hire apparatus and oxen, and to borrow seed, derive very little profit from their industry, as they have to give 1½ seer for every seer of seed, 4as. a day for ploughing, and 8as. a day for watering. Those who work with their own hands, of course save considerably in labour.

Admixture of other grain with Wheat.—No other grain is sown in the same field with wheat, because wheat lands are necessarily prepared with so much cost that it would be unprofitable to sow anything else in them. Sometimes, however, Jhotail fields (field in which a catch crop had been sown) are sown with an admixture of wheat and barley in equal proportion, called gojai. No other mixture of grain has been seen.

The wheat flour is often adulterated by bazaar Bunyas with barley and millet.

Average Market price of Wheat.—The price of wheat for many years past can be ascertained from the Tehsil and Chungi office records. The average rate in the month of Chait (March) the month of harvesting wheat, during the last five years, has been about 20 Seers per Rupee, and in Kuar and Katick (September and November), the months of sowing wheat, about 16 seers. I have, however, known one puka Maund of wheat to be sold for one Rupee in Nawabi time.

Wheat is not commonly staple food in the country.—Although wheat is cultivated on about 20 per cent. of the cultivated land in this country, for

a cultivator possessing 10 bigha of Matyar or Domat (not Bhoor land) would certainly keep two bighas as Choumas for wheat, yet according to my observation and knowledge, wheat is commonly used here, not as a staple food, but as an article of trade. The petty Zemindars (land owners) Kashtkars (tenants), Beohars (dealer in grain on the terms Derhi and Sawai), who are in easy circumstances, do not live upon wheat entirely. They store the grain with as much frugality as possible, in order to increase their profits, by means of Deohi and Sawai. The petty Kashtkar (asamis) sow the grain, in order to pay the demands of the landlord. And the poor labouring class of people are never so fortunate as to get wheat, because they receive in their wages the coarsest kinds of grain, and whenever they receive a share for reaping a wheat field, or by means of gleaning a Baharwa, the poor men often exchange it for some coarser grain, in order to have a fuller meal. Sometimes they keep the wheat, and use it in festivals or for the dinners of their most honoured relatives, such as their sons-in-law or brothers-in-law, when they come to visit them. Wheat is of course a chief article of diet of the great Talukdars (large landholders) and rich Zemindars (landholders); and all their sepoys (attendants) who get their food, will have wheat flour. All their guests, relations, and khidmatgars (domestics) get the same diet; and in all their large invitations, religious and nuptial ceremonies, wheat flour is used. When wheat is dear, they substitute rice. Now of these men in Nawabi time, and only a few of them in these days cultivated land for themselves; they used to buy their grain at the bazaar. However, those who manage the *seer* (homefarms) for them, and sow all sorts of grain (especially the petty Zemindars) do not feed their household servants with wheat bread, but have some other coarse grain cooked for them. Poor people of high caste, and well-to-do people of low caste, very seldom eat wheat. Barley and Juar (millet) is their most common and favourite food. In some houses of these two classes, the head man of the family and some favourite children eat wheat, but the other members most commonly live upon barley (or millet); but in their festivals, invitations, and religious ceremonies wheat is used by all; and to their guests also, they always give wheat flour. Their household servants receive coarser grain. In short, in the houses of the two above mentioned classes, much less wheat is used, in comparison with other grains. In other words, the common article of diet among the highest class of people, is wheat and fine rice; and among the middle class coarse rice and barley. In the lower classes, wheat is rarely used, even in their invitations. The rich and upper class of people of low caste, such as Kulwar, Bhooj, Moorai, Mokeri, Manihar, Bahalia, Bari Baria, Lohar, Barhai, Komhar, &c., give rice in their large festivals and gatherings; and the Chamar, Pasi, Kewat, Kumbi, Lodh Ahir, Dharkar, Beria Beldar, Gararya, &c., give jow (barley), juar (millet), Bajra, Sawan or Makra, &c., a kind of very coarse grain, &c.

The consumption of wheat flour among the rich and high class people depends upon the number of the members of the family; for each member from 1 to 1¼ pound of flour is used to make the girdle cakes.

9. It would be interesting to add a few words with regard to the cultivation of wheat in England; showing the cost and the yield per acre, and for the sake of comparison, reducing it to bigha scale.

Soil and condition of the field.—In England generally, wheat grows on all kind of soils; but as in India in this country also, clay *(Matyar)* is the most suitable soil. On clay it is generally sown, and thrives well. The best treatment of the field for this crop is to give it bare or summer fallow; what is termed in India, choumas. That is, the best fields for growing wheat are those which have been left unsown for one year, and during that time had been several times turned up, the soil made loose and the weeds up-rooted, exposed to the sun, and burnt. If bare fallow is not given, wheat takes its place in rotation after "Seeds" (grasses), and clover, &c., which correspond to our masail field, viz., after a leguminous crop. In other words it is sown after clover, and in India it follows mash, both being leguminous crops. On heavy soil it is sown in the field from which beans have been harvested, this corresponds to our khutail field. Wheat after wheat, (sowing the grain in jeonar field), has proved disadvantageous in England also, unless manured.

Manuring.—If after summer or bare fallow, farmyard manure or dung, 15 tons per acre (or one load per biswa) is put down and ploughed in, sometimes a crop of mustard is sown and ploughed down as green manure. If after clover the crop is eaten by sheep, it means just the same as our plan, of keeping a flock of sheep in the field. We don't know any other artificial manure in India, but in England if the weather is dry, and the crop does not seem to thrive well, the field is top-dressed with from one to two cwt. of nitrate of soda per acre. Sometimes 5 or 6 cwt. of common salt (sodium chloride) are applied per acre. If the crop appear to be growing too luxuriantly, sometimes it is fed off by sheep, but not later than March.

Drainage.—For growing wheat advantageously, the land must be well drained. As the fertility of the soil and successful farming in India depends first of all on providing water; so in England the first necessity in farming is to provide the means of drawing out the excess of water from the land. For the protection and improvement of our agriculture, we require an outlay to dig wells for water; here in England the farmers require money for drainage. But there is one great difference, that besides the expenses of providing the means, we remain always under the necessity of outlay, for the motive power to irrigate the farm; while, when drainage is once made, there is no more expense.

Preparation of field and general processes of cultivation.—For the wheat sown after summer fallow, which corresponds to our choumas field sown grain; (1.) The first ploughing is commenced in autumn, about September or October. First the stubble is cut and the land is torn by the skim plough; then, (2), it is ploughed four inches deep by a common wheeled plough. If the land is heavy (clayey), it is torn in March by a steam plough or cultivator.* Many practical farmers are against deep ploughing; it is no doubt injurious when the subsoil contains obnoxious matter. On very large farms, the farmer might have his own steam plough; but generally there are one or two steam ploughs in an agricultural district, and these are hired by the neighbouring

* Cultivator or grubber is the name of an implement used for stirring and tearing the land for obtaining fine tilth.

farmers at the rate of 10s. an acre for ploughing and 7s. for cultivating; for heavy land something more—water and coal supplied. The fields being very large from about 20 to 100 acres (30 to 150 bighas), and well surrounded with roads, there is no difficulty in letting and hiring the mechanical power.

N.B.—Of course, in India, where the fields are of one acre or less, at an average, and two or three of them make a holding of one farmer, the steam plough can hardly be introduced.

After ploughing on stubble, the field is left till the following March, when (3) once more cross ploughing is done. After cross ploughing, if the soil is light, it is (4) rolled either with a Crosskill, Cambridge, or flat smooth roller. If the soil is heavy and lumpy, it is dragged by a heavy four-horse drag harrow. (5). If necessary, it is dragged once more with a light harrow. (6). In April, it is ploughed again. (7). In May, harrowed. (8). In June, cultivated. (9.) If not clean, it is again cultivated. In July (10) if necessary, harrowed again. In most cases now, (11) the farmyard manure is applied and ploughed in. Now by the end of September, or generally in October the seed is drilled. One drag harrow, drawn by four horses if the land is heavy and lumpy, goes in front of the drill, tearing the surface of the field. After it, the drill follows, drawn by four horses having 11 to 13 coulters, from six to seven inches apart, which make the scratches for seed beds of equal depth, and by a mechanical arrangement the seed finds it way into the beds. A light harrow drawn by two horses follows the drill, covering up the seed.

In order to get a field thoroughly cleaned from couch (a grass like doob) and other weeds—to give the land perfect rest—to allow the free access of water and air for chemical actions, and for improvement of the condition of the field physically; as well as to get the essential matters of plantfood, and to make them in available form, the bare fallow is given and the field is thus prepared. The couch and other weeds are uprooted, and brought upon the surface, and then burnt in summer, and ploughed in; thus the materials which they had taken for their growth from the land is restored again to it, for the wheat crop. For the same purpose, the farmer in India has to cultivate the choumas field 20 or 30 times before it is prepared. There is no other difference between the two systems of wheat cultivation, but this; that, in India time being of much less value, and money scarce, the former is applied more to save the latter, while in England the case is *vice versa*. We mean to say that in England by means of machinery, and the aid of various sciences, although the soil is much more difficult to work than that of India, yet instead of 20 or 30 ploughings, it is made suitable for the purpose by the above mentioned ten or eleven processes, and in much less time than is spent in doing the same work by our Indian method. It would be rather difficult, and too much for us to compare and find the ratio between the time and the manual labour per acre, which is consumed in raising a crop of wheat in the two countries. But roughly speaking, a fair idea can be made by this estimate; that a farm of six or seven acres keeps four members of a family, and a pair of oxen busy all the year round in India; while the same number of hands and three horses are quite enough for 100 acres of medium land in England; or a fair

estimate can be made by the rates of the wages. In India the wage which we pay to a farm labourer is, including extras, at most 2d. per day; and here in England, including piece work, &c., the average for the year is at least 3s. or 36d. After taking the difference in the product of an acre in the two countries into consideration, which, roughly, is one-third greater in England than in India, and comparing these items of wages and product on the same scale, there is still a ratio of 2 : 24 in the wages of the two countries; consequently one man in England must be doing that amount of work which twelve men do in India. There is no doubt that the facility in work is due to the costly and improved implements which are used in English farms. Those few that have been mentioned above are not all. A complete set of apparatus which is required for a very large farm will make a long list. For instance, there are not less than ten different sorts of plough, such as swing, wheeled, single mould-board, double mould-board, double furrow, *subsoiler*, potato digger, and skim plough, &c., &c. The same is the case with harrows, there are drag, chain, zigzag, Norwegian, and light harrows, &c., &c. The rollers too are of different kinds. The implements for hoeing, mowing grass, and harvesting cereals, are different to those named above. The scarcity of manual labour has been the cause of their invention; and the farmers having the command over capital, have compensated, by the outlay of money, &c., the want of manual labour in the substitution of machinery. The scarcity of manual labour is of course due to the increase of the public wealth, and to the diversity of occupations, as has been proved in the foregoing chapter. On the other hand, in India it is necessarily found advantageous and cheaper to produce crops by the expenditure of time.

The seed and sowing.—The very best seed, true to its sort, perfect in itself, and full matured, is sown. The firms and seedsmen, who are almost within the reach of every farmer, produce seed. It is very interesting to see their experimental plot, and the attention and care which they bestow on improving the varieties of seed. One simple glance at the office premises, and the seed plots of Sutton and Sons, of Reading, will make a stranger open his eyes, and prove that no further efforts seem possible in respect of seeds for producing, good, pure, and healthy crops. The seeds are changed from one soil to another, from one climate to another, and from early to late districts. If the law with regard to seeds, that they should be changed as stated above, be assumed true, it seems surprising how in India the seed, which generally does not leave its own soil for centuries, produces a good crop.

N.B.—It has been stated above that in India seed is lent by the Mahajar in villages, who take it back with 50 per cent. interest, give the same seed again to the same people for the fields in the same village next year. This circulation seems to have been in existence from all time.

Before sowing, the seed of wheat is pickled, one pound of blue vitriol (sulphate of copper) is dissolved in half-a-gallon of boiling water, with which one pint of tar is mixed; this is enough for one sack of grain, that is, four bushels or 248lbs. The seed is sown in two ways (1)

Broadcast (chitkao-wa'n). (2). Drilled. Broadcasting is done with the hand, a man carrying a basketful of seed, which remains hanging to his neck, throws the seed with his two hands on either side. Ten or twelve acres are sown by one man in a day. By this method more seed is used than if it is drilled. Another disadvantage in this is, that the seed does not find beds of equal depth. A third objection is that horse-hoeing cannot be done on a broadcast sown field. The other method is drilling by a mechanical apparatus as described above. The cost of drilling is greater; with four horses and four men, only 12 acres can be drilled in a day; but there is a saving in seed, &c. An acre requires from two to two-and-a-half bushels of seed of winter wheat, which is sown in September and October, and from two-and-a-half to three bushels of seed of the spring varieties.

Varieties of wheat.—Roughly speaking, there are hundreds of varieties of the grain known in England. Of these seven leading species are described in books, and each of these has more or fewer varieties and sub-varieties. Two of these seven, that are most commonly grown, are: (I) Troticum Sativum, or common wheat; (2.) Triticum Turgidum, or turgid wheat. The first is arranged into two principal divisions. (A.) Bearded (Tunrwa). (B.) Bearded (Murwa.) Of the bearded there appears to be seven, and of the beardless, twenty-seven distinct varieties. The second species, turgidum, has also two principal divisions. (A.) Having simple ears. (B.) Having compound ears. Eleven distinct varieties of turgidum have been enumerated. But the varieties that are most commonly sown are of (A) winter wheat. (1.) Square-headed; [2.] Hunter's white; [3] Red Nursery. Of [B.] Spring wheats; [1.] Red Nursery; [2.] Bearded or April wheat. The winter wheats are sown in autumn from September up to November; but never or very seldom in December or January. Red Nursery is also sown as late as February, or even March. The spring varieties are sown in March and April. Both kinds are harvested in August, the winter wheats a few days earlier, than the spring wheats The winter or autumn-sown wheats mature and are harvested in about ten, and the spring wheats in about six months. The former of course remain longer in the fields, but require less seed, and thrive well; in these respects the latter are not so good, but takes less time to mature.

Weeding.—As many weeds grow with the corn, and some of them are very luxuriant; weeding is necessary. One great advantage of drilling over broad-cast sowing is this, that the field can be cleared, and needs clearing off by machine and horse-power, which is called horse-hoeing. Hoeing or cleaning the field is considered most advantageous; and is therefore recommended even on the cleanest farm. With one horse 10 to 12 acres of land can be cleaned, and the hoeing is done from two to five times at suitable intervals, and according to the special needs. In many cases, especially in broad cast sown fields, hand-hoeing is done; but a man can clean only half an acre in a day. By hoeing, not only are the weeds cut, but the field is dug to a certain depth (what is called in India Gorna). Of course the weeds are not so thick and intermixed as in our Kharif crop fields in India, which require 30 to 40 hands to clean one acre; and when the fields in England are choked up by the weeds

as much as in India, no attempt is made to clean them ; but they are fed off by stock. Hundreds of weeds grow in the wheat fields ; but the most common are—(1) Charlock (wild mustard) ; (2) Poppy (lala.) Sometimes these weeds form one-fourth or one-half of the produce of ill-conditioned fields. (3) Couch (doob) is the greatest pest here ; just as doob in India, which sometimes becomes a great nuisance to the farmers ; (4) Coltsfoot ; (5) Crowfoot ; (6) Nettle ; (7) Dock ; (8) Garlic (wild lahsun) ; (9) Several varieties of plantain ; (10) Wild oat ; (11) Plant from the last cropseed (lamer).

Reaping and Harvesting.—Reaping is done by sickle, scythe, and reaping machine. The last is the most common method. Next to it comes reaping by scythe. In harvesting time, many labourers from Ireland are seen in England, carrying the large sword-like scythe on their shoulders. In many parts of the country they cut the crop by piece-work. One scythe can cut from $1\frac{1}{2}$ to 2 acres in a day ; the cost is from 5/6 to 7 shillings per acre, including cutting, and making sheaves. A reaping machine cuts about 10 acres in one day, and the cost is about five shillings per acre. Some reaping machines are self-binders : that is, they reap and at the same time bind the sheaves. There are many varieties of these machines and some are very costly too. A self binder costs £60, or about Rs. 700. After reaping, in the case of wheat, it is necessary to make the sheaves about one foot in diameter ; and the sheaves are stooked ; that is, 10 or 12 of the sheaves are made to stand together in the field, where they remain for about a week. After this, the out-turn of the field is stacked on stoddles. If it is to be thrashed at once, it is necessary to get it perfectly dry in the field ; otherwise it will not hurt if it is stacked while still a little green. The out-turn of ten acres can be carted about the distance of a quarter-of-a-mile, by three carts, in a day :—one man will pitch the sheaves on the carts, while two men will build the stack. If the distance is greater, the number of carts will be increased.

Thrashing and Winnowing.—The oldest method of thrashing by flail is not in use now, because it is most expensive, costing as much as 3/6 per quarter. The flail is a stick, or club, by which the sheaves being beaten, the ears were separated. Now steam or horse-power thrashing machines are in use, horse-power costs 2/- per quarter, and steam-power only 1/4. There are many kinds of thrashing machines ; some of them are very costly ; and thrash as much as one hundred quarters per day. A moderate sized one will thrash about 50 quarters per day. The cost of this is Rs. 2,600 to 3,000. Winnowing is done in the same machine.

Average Out-turn ; Admixture of other grain with Wheat ; Market price ; Wheat as staple food.—The average out-turn of wheat is about four quarters or 32 bushels per acre at the most ; and according to the "Chemistry of the Farm," by R. Warington, F.C.S., 30 bushels =1530 lbs. dry grain, and 2653 lbs. of straw. This would be equal to 1220 lbs., or about 15 Maunds of grain per bigha ; and according to the Journal of the Royal Agricultural Society for 1878, page 198, the average out-turn is a little less. No other grain is mixed with wheat when sown ; but sometimes seed (grasses) is sown on wheat, *i.e.* when the latter is about two or three inches above the ground seed is drilled across the

wheat furrows; but this seed does not interfere with the purity of the crop.

The market price of the wheat decreases considerably. Twenty years ago, the price was nearly double what it is at present. In 1867 the price was 64/6 per quarter; it varied much; but up to 1876 never went below 45/-. At present it is 36/- only; and the price of the very best wheat is about 40/-. The reason of this decrease in price is—firstly, foreign competition; and secondly, the meat becoming more and more the staple food of the common people. Though America supplies meat very largely, as well as wheat, yet the price of meat is increasing, while that of wheat is decreasing. It is a recognized fact that growing wheat in England is now not at all paying to the farmer; they rather lose a great deal by producing the grain. And to a greater extent, therefore, wheat is now excluded and meat is substituted for it; we mean that the land is used for cattle in order to avoid the loss on cereals.

As to wheat being a staple food, we have no hesitation in saying that it is not only the staple food of the human being of all classes, but is also the staple food of pigs at present in England. A large quantity of wheat which is imported or grown here, is consumed in fattening pigs.

Now we have arrived at the important question of the cost of raising one acre of wheat, which is never less than £5 or Rs. 60 per acre. The detail of the approximate cost per acre given by Robert Wallace, F.H.A.S., &c., Professor of Agriculture, at the Royal Agricultural College, Cirencester, is as follows:—

COST OF CULTIVATING WHEAT IN A MEDIUM LAND AFTER CLOVER.

	£	s.	d.	£	s.	d.
Cost per acre of preparing fields before sowing.						
1. Ploughing [2 horses, 1 man, 1 acre] 12s. per acre	0	12	0			
2. Crosskill or Cambridge roller [4 horses, 1 man 8 to 10 acres per day] ... ... per acre	0	1	6			
3. Double harrowing, twice each, 1s 1d. [2 horses 1 man a single time, 16 to 20 acres per day] per acre	0	2	2			
				0	15	8
Cost of sowing and other processes after sowing.						
4. Drilling [4 horses, 4 men 10 to 12 acres per day] ... ... per acre	0	2	0			
5. Harrowing [light] [1 horse, 1 man 16 to 20 acres per day] ... . per acre	0	0	6			
6. Deepening furrows for "flush" water „	0	1	0			
7. Seed, at 40s. per quarter ... „	0	10	0			
8. Pickling seed ... ... „	0	0	2			
9. Bird scaring ... ... „	0	1	0			
10. Rolling [2 horses, 1 man 8 to 10 acres per day] per acre	0	0	9			
Carried forward	£0	15	5	0	15	8

	£	s.	d.	£	s.	d.
Brought forward	0	15	5	0	15	8
11. Horse hoeing 3 times each at 6d., [1 horse, 1 man 10 to 12 acres per day] ... per acre	0	1	6			
12. Hand hoeing [once] ... ... „	0	4	0			
				1	0	11
Harvesting and Marketing per acre.						
13. Cutting [by machine] and binding	0	4	6			
14. Stacking	0	2	6			
15. Thatching	0	1	6			
16. Thrashing	0	5	6			
17. Carriage to market [possibly]	0	2	6			
				0	16	6
Total cost of cultivation				£2	13	1
Manuring, &c., per Acre.						
18. Dung, 15 loads at 5/-	3	15	0			
19 Carriage and spreading	0	9	0			
20. Nitrate of soda ... ... 1 cwt.	0	12	3			
21. Common salt .. .. five cwt.	0	5	2			
				5	1	5
Rent and Taxes.						
22. Rent	1	10	0			
23. Taxes	0	4	0			
				1	14	0
Grand total				£9	8	6

Sometimes extra outlay is necessary for the following works:—Skimming 2/-, reaping by hand 4/-, extra hand hoeing 3/- per acre.

The cost of growing wheat after bare fallow is about £3 12/- more than growing wheat after clover. It is calculated as follows:—

	£	s.	d.
1. Ploughing three times at 14/-, other two at 12/-	3	6	0
2. Double harrowing 6 times at 1/1	0	6	6
3. Gathering and removing weeds	0	5	0
4. Seeds, furrow, ploughing on heavy land	0	10	0
5. Sowing broad cast	0	0	6
Total ... ...£	4	8	0

According to the cultivation book of the Royal Agricultural Farm at Cirencester, the cost of cultivating wheat in the fields Nos. 1, 5, 15, and 16 [about 70 acres], in 1887, appears as follows: Hand labour, £38 14s. Horse labour, £90 1s. 3d. Seed, &c., £39 18s. Manure, £28 2s. Or the average cost per acre of simply cultivating, sowing, and reaping amounts to £2 16s. 4d., = Rs. 33-10 per acre. If the cost of stacking and thatching, which comes to 4s., and the cost of thrashing 5s. 6d., as well as the rent £1 10s., and the rates 4s., be added

to the above, the total cost will be £5 3s. 6d., about = Rs. 62. per acre, or roughly speaking, Rs. 40 per Bigha ; and the average out-turn per acre, roughly much less than 30 bushels per acre ; *i.e.* 20 bushels [= 15 maunds and 20 seers] per bigha. Now, for the sake of comparison, and finding out the profit of the farmers of both countries, we prefer to take, not the maximum estimated cost given by the Professor, which is over £8 per acre, and includes a number of extras, as dung which will enrich the land for succeeding crop, but the average of the actual cost of four different fields, of about 70 acres,, on the Royal Agricultural College Farm. We then find the result thus : The present market price of wheat in England is from 36s. to 40s. per quarter ; for some years past it has been continually falling, and still seems inclined to go down further ; but we will calculate at the rate of 40s.* per quarter,† Supposing the produce to be all of the first quality, and we do not take the carriage charges to market into consideration. Then we see that the total value of the grain [out-turn of one acre] is £7 10s. or £5 = Rs. 60 per bigha. The straw as a rule is not sold in this country. Generally, under the covenants of leases, it is obligatory that the tenant must use the straw on the farm, and either have it consumed by the stock, or get it converted into manure. The wheat straw is especially used for thatching ricks and stacks of crops, ewe-pens, and root-pits ; for litter ; and in cases of scarcity of fodder it is given for food to the store stock ; commonly, however, it is mixed in the farmyard manure. However its value is assumed at an average rate of £2 per ton. The yield being 1½ tons per acre, the total value therefore is £3 = Rs. 36 per acre, or Rs. 24 per bigha. Thus the approximate gross income of an English farmer is Rs. 84 per bigha ; from grain Rs. 60 and from straw Rs. 24. The cost being Rs. 40. the net profit is therefore Rs. 44. In India the cost per bigha, as shown in the foregoing example, £1. 10s. = Rs. 18 per bigha ; the total income is £2 15s. = Rs. 33, viz. ; from the grain Rs. 28, and from the straw only Rs. 5. The net profit is therefore £1 5s. = Rs. 15., or in other words, roughly calculating, the net profit to an Indian farmer is about 83 per cent on the outlay, and to an English farmer is 110 per cent on his outlay exclusively. But it must be noticed that the great difference is in the value of straw ; the ratio of the value of straw to the value of grain is in India as 1 to 6·6, and in England as 1 to 2·9. The enormous increase in the value of straw in England is due to the same reason that has been stated above *i.e.*, that the price of meat is increasing. The food or other commodities required for beasts in England is more costly than the food of the peasants in India. It is, therefore, not fair to incluce the item of straw in the comparison. Moreover as the straw as a rule, does not actually bring any money to the farmer in England, it is used either for the bedding of cattle (litter), or is mixed with manure and returned to the field ; therefore we must exclude it in comparing the items of the income and the net profit of the farmers of the two countries Or on the other hand, if some allowance be made for other admixtures that the farmer

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* 40 shillings = 24 rupees. † 1 quarter, 496lbs., or 7 maunds and 8 seers ; so, in round numbers the price equals Rs. 4 per maund.

in India generally grows with wheat and sells, such as mustard, barrai, and kusum (safflower), and if also some allowance be made for the quantity which some of the farmers consume themselves, (Hola and Unhi) when the crop is standing green in the field, the percentages of the profit would then be much more nearly equal.

10. But there is one important matter worth consideration, which is this: In the above example the total cost of the manual labour for cultivating, sowing, and cutting the wheat in 70 acres is only £38 14s. or about 11s. per acre. The average daily wage on this farm for the above mentioned work, according to the cultivation book, is about 2s. 6d. per man. If we divide 11s. by $2\frac{1}{2}$ we find 4·4 as the number of men per acre: *i.e.*, 4·4 men have raised a crop of wheat from one acre, or, reducing it into bigha, which is two-thirds of an acre, the number of hands is 2·9 per bigha. But in our example of producing a wheat crop from one bigha in India and for doing the work up to the stage of reaping, (including watering), no less than 95 hands were employed. Had the English farmer been obliged to produce a crop by employing 95 hands, and had he to pay all at the rate of 2s. 6d. each, the bill of wages alone would have amounted to £11 17s. 6d, or about Rs. 143, which is nearly double the value of the whole crop, including both grain and straw. Including all other expenses of seed, horses, implements, manure, rent, &c., the total cost would amount to no less than four times the actual value of the produce. It is then owing to the scientific agriculture, and the aid of machinery, that an English farmer, in spite of the rate of wages being so high, the land being so much more difficult to work, and the climate being less favourable, nevertheless, makes 110 per cent profit from wheat growing.

Now after taking all the above mentioned matters into consideration, let us try to solve the problem of improvement in Indian Agriculture. It is unanimously agreed that we must introduce machinery and artificial manures. At first sight, we now see clearly that we get a profit of Rs. 10, by an outlay of Rs. 18; while for the same crop (grain alone) an English farmer spends Rs. 40, and gets Rs. 20 as profit. There is not much difference in the quantity of the produce, as we raise 14 maunds, and they raise 15 or $15\frac{1}{2}$ maunds per bigha. Nor is there much difference in the profit of the grain, our net profit (exclusive of straw) being 55 per cent, while the Englishman's profit (exclusive of straw) is exactly 50 per cent. It is not the case, however, that the Englishman makes a profit of Rs. 20, and we a profit of Rs. 10, on the same outlay; but that the Englishman, by a larger outlay, extracts Rs. 20 from one bigha, while we, with our smaller outlay, can extract only R10; hence the larger the outlay, the larger the return. It is quite clear, that if owing to the favourableness of our soil and climate, with such crude methods of farming, and so small outlay, we produce a quantity nearly equal to that which in England is produced by scientific agriculture, with the application of improved methods and machinery, our produce will greatly increase. But in bringing this proposal into practice, we at once meet with two great drawbacks. [Firstly], the want of the principal, the vital power *capital*, without which thinking of improvements would be simply like the dream of Alnaschar [and it will

be shown here after how much capital an English farmer requires for implements alone].

[Secondly.] The throwing of millions out of work. For if our big landowners, who possess capital, employ it; and after turning out all their petty tenants of the small holdings of three or four acres, rearrange their estates in large farms of five or six hundred acres, and by introducing improved methods of farming, thereby reduce the number of labourers for raising a bigha of wheat from 95 to 3, what fate will occur to those 92 poor labourers, who are thus deprived of their means of livelihood; and to the 100 tenants by dispossessing whom, for the sake of scientific and improved method of agriculture, the large farms have been formed? Is there any other means of livelihood by which these poor men, when excluded from agiculture, would be able to maintain their existence? The improved agriculture seems then to do little good besides, and to be impossible in the present condition of India. Moreover from the above examples, it is clearly seen that the improved methods would not be profitable in the case of India; because, while the ratio of profit in England is, 50 per cent, and in India our percentage of profit is 55. Now, if we introduce improvements, such as machinery or artificial manure, which can be got only from England, we should have to pay for them perhaps double as much as the Englishman; therefore, the whole cost would become so heavy to us that it would probably leave no margin of profit. It may be said that we need not depend on England for our improvements; and that we should make the necessary machinery and manures ourselves. Certainly this would be profitable! but here the question comes again, where is the native energy and the native capital to do all this? This is our one difficulty and this is our one want. We must first find other occupations for our labourers; and then improve our agriculture. Thus we shall reduce our cost, and thereby increase our profits in growing wheat, without injury to our poor. But until capital is applied for other occupations in India, besides agriculture, the proposal to make improvements is simply a talk; but it is impossible to be carried out.

Here perhaps we shall be checked by the advocates of the proposal, that they do not mean, that all the plough oxen in India should be changed for horses, and the labourers turned out of the farm, by steam cultivators, but that the produce should be increased as far as possible in the present circumstances, without reducing the hands or introducing costly machines, viz., simply by good cultivation, good seed, good tilth, and by the application of new kinds of manure. But alas! those who say this have a very superficial knowledge of the question. They must know this, that the whole secret of scientific agriculture is, [A] the reduction of the cost of the motive power; [and this motive power in India is simply human labour]; [B], increase of profit by the increase of outlay: For instance, by top dressing wheat with nitrade of soda, [one to two cwt. per acre], they increase the produce, but it costs 12s. per cwt. The Indian farmer, if he could always give three waters to his fields, and had money to buy good seed and good manures, would certainly increase his profit, but this would not be the result of any new mode in his work, but simply the result of his larger expenditure.

From careful observations it is seen that husbandry does not disobey the general laws of political economy, viz., (1) that wealth or (as we call it) profit, is the results of combination of labour and materials; and this combination is produced economically by the application of capital. (2.) That profits can be increased, either by reducing the cost of the motive power (labour), in such a manner as not to lessen the quality or the quantity of the product; or by increasing capital as far as demand allows, and thereby increasing the two wealth-producing factors—labour and materials. In the absence of these no wealth or profit can be produced. Hence capital is the primary power, or factor, for producing wealth. For example in India labour is abundant; but, owing to the scarcity of capital, not enough materials can be got; therefore wealth or profit cannot be increased. We have natural materials for agriculture, the land, rain, &c.; and by the application of labour to these, we produce wealth for the country. The amount of capital which we spend at present in providing labour and material, seed, &c., produces a certain quantity of wealth or profit; and it will remain stationary as long as no change occurs in these factors (or in natural causes). But if by the increase of capital we increase either of the two means that may be deficient and necessary—labour or materials—the profit will increase. For instance, if we give three waters instead of two, and besides dung, purchase nitrate of soda, the produce will increase to a certain point; and it will increase with the increase of capital till one of the two, either the labour or any of the materials necessary for the product, reaches its extreme point. After this there will be no increase in the produce of wheat. If there is still excess capital, and also excess labour, we might provide work for the people, in other words, increase the wealth of the country by providing other materials to be worked on; such as we could make needles, thread, and pins for ourselves. On the other hand, if there is excess capital and excess of materials, but a scarcity of labour, as is the case in England, then by the aid of science we might invent a steam engine. In short, our first and last need at present is the want of the primary power, "*capital*," to make improvements in our agriculture; and except this nothing else is yet wanted for the proposal.

11. From the above examples of the cultivation of wheat in the two countries, it is manifest, that there is not any secret in the mode of husbandry which is not known to our illiterate cultivator. The processes of the whole work from the beginning to the end, such as summer fallow, fine tilth, burning noxious weeds, making farm yard manure, the time for manuring, the effect of stubble, and sheep folding, the quantity of seed, of manure, and so forth, seem to coincide with each other. But the Indian farmer stops when the question of expense comes in. We are positive, that if he found means, no effort would be wanting on his part to make improvements. He knows all that is required there in the way of improvements. The first thing which he would make and secure would be the substantial means of supply of water. (2.) He would provide strong plough oxen and dairy beasts, so as to make profit by the dairy produce, and to get dung into the bargain. (3.) He would select his seeds and introduce sugarcane

into his rotation, which is a most valuable crop, and the best preparation for wheat.

12. After these general remarks about improvement, we should proceed further and go into the details of the question. But before this, we must remind the reader that he should not make a mistake of thinking that we are against all those proposals for improvements which have been treated in the foregoing chapters; such as the help of Government, modification of law, and improvements in trade, &c., and he should not think that we oppose the new ideas; or that we are of opinion that in India nothing needs improvement. We have repeated this tale over and over, that we consider all the economical affairs of India to be in a very rusty condition, and to be in want of polishing; and any improvement in those affairs would be a cause of prosperity. But the real object of all our arguments is this, that, without first having a command of capital and energy, it is impossible to derive any actual benefit from the proposals. Indeed in absence of that primary power, '*the wealth of the country*,' not only will the proposals prove unsuccessful but they will be even injurious. It is a mistake to believe that these proposals and plans will produce the same effect in India as they do in rich countries. They cannot do this for us. They are the seed of prosperity, no doubt; but this seed will never germinate except on rich soil. America would have never prospered, had it been a poor and unenergetic nation like ourselves; the settlement of capitalists has made it prolific. First of all we want our own means to carry out the plans and then they would be able to increase the wealth and we should thereby enjoy the benefit. In this chapter, by what we have already said, and what we are going to say, we do not mean, that we are of opinion that, because, owing to the natural gifts which India possesses in agricultural matters, our illiterate peasant produces with little cost as much as the scientific farmer of England, and has knowledge of all the secrets which the other has learnt in the Royal Agricultural College, therefore no improvement is required or is necessary. Undoubtedly we confess that husbandry in India is in such a crude form that every branch of it, however trifling in its nature it may be, is indeed in want of improvement; and when the improvement by some means shall be admitted successfully it will give no other result but good for us. Bnt the question is that they *cannot be admitted, and cannot be beneficial* unless we do them ourselves and with our own money. Now we should commence the detail and try to show our difficulties and wants with regard to each of the branches of husbandry; and also briefly state what means the people have got in their possession, how they make use of them, in what respect they are in want of improvements, and why they are incapable of admitting such improvements.

13. The first necessity which lies in the way of the progress of an Indian farmer, and which requires first attention for improvement is the means of water supply. As drainage is in the United Kingdom and other European countries, so irrigation is the backbone of all the improvements and the mother of the success of farming in India. In former days when there was not such an extensive area under cultivation, the natural and artificial means of water supply were sufficient for the

purpose. By the increase of population and the other reasons mentioned in the introductory part of this book, the cultivated area has increased enormously, while the supply of water has remained almost stationary. Indeed, many large natural reservoirs of water, *i.e.*, tracts of low land, in which rain water used to accumulate and stand during a large part of the year, have been drained, and, being dried, converted into cultivated fields. The people did, and do their best to meet the want, but were not able to do enough. The drawback has been, and is, greatly due to the poverty, and the poverty to the multiplicity of the tenants, and the small divisions of the holdings. The holdings of the large thrifty and provident farmers, and the home farms (seers) of landowners, are as a rule well protected by means of irrigation, while the small farms are generally in want of the same. There are three methods in use of providing water. (1.) Putting a dyke round the area of the outlet of rain water in a plain, and thereby stopping the water from making its way to the streams. As this work requires large outlay, it is done only by large landowners in the centre of two or three villages, this is called *Bon*. For the irrigation of rice in the hard season and rabi crops, Dooglas are used with this system, and the whole cultivated area round the bon is well protected from the severity of a hard season. (2.) The second method is digging tanks. By the religious notions, it is considered an act of virtue and charity, and by the social laws a memorial and mark of distinction, to dig a tank; hence it is very common that the people of all kinds and classes in the country, even those who have nothing to do with agriculture, for the sake of leaving a token of their memory, and in hope of future rewards, lay out their fortune in this work; but these are particularly of use for cattle, and less valuable for irrigation purposes. These are of two kinds, kutcha without brickwork, and pucka, with clay burnt brick bonds. Generally people of fortune and widows without issue provide this means of water supply. (3.) The third, the most common, useful, and handy method, is digging wells. As they are not very expensive every one, even the peasants of very little fortune, can do this. And the greatest advantage of this system is that they can be made, in every place, high and low, on every kind of soil, at all times, by the labour of the very men who want them. As it has been stated above, the large and well-to-do farmers have sufficient numbers of wells in their farms. But there are not yet one-fourth of the number that would be necessary to save the country from the calamity of famine and the severity of one or two dry seasons: or to allow the improvements in husbandry which all entirely depend on the good supply of water. The water bearing strata vary in depth in the country, being only 15 feet, in the Tarai (valleys of mountains), and in the central districts of the Province from 25 to 60 feet, and up-country still more. In Bondelkhand the water sometimes lies at a much greater depth. Up to the depth of 80 feet, irrigation can economically and advantageously be done from wells. The quantity of water is estimated in the country by the numbers of "Pur." A pur means the quantity of water drawn by two-ox power in twelve hours, two pur means four-ox power, and three pur six-ox power, and so on. A four-pur well, about the depth of 60 feet, is considered enough to protect ten acres in a very dry season.

And this standard well is known to be constructed at a cost from one to five hundred rupees. The cost varies not only according to the locality and the kind of soil, but it greatly depends upon the self labour of the producer. Some peasants who have enough hands in their family to do the labour, or live in a centre where the labour is exchanged, require only the wages of the masons who build the cylinder and sink it, while others who have to pay for all sorts of labour have to pay a good deal more. It would have been very interesting to describe how the poor men work, what are the terms of their interchanging labour, what materials they have to collect for the work and wages, how they burn the brick, and what religious and social ceremonies they have to perform at the beginning and the end of the work; but we must pass over them as it will be too much for this little work and outside of the question. The average cost of such a well by very careful enquiries in many districts of Oudh and the other neighbouring districts of the North-Western Province has been estimated to be about Rs. 300 = £25, but where the water is nearer the surface, the cost is no more than Rs. 100 = £8 or £9. However even in those parts of the country where the cost is very moderate, the wells are insufficient. When the people feel the necessity, know the advantages, and can do the work themselves, why are they lax in doing it? It requires no argument to prove, and no one could deny that there can be no other reason for not making more wells except their poverty. Indeed it is beyond their power to provide their comfort even at such a small cost as £10. Perhaps it would be supposed that the insecurity of their tenure is the main and chief cause of the drawback, and this reason may be admitted to a certain extent; but it would be quite unjust if we throw the whole blame on this trifling cause. We believe, that it has been proved enough in Chapter II. of this work that even with security of tenure, the poor people would not be able to do much in improvements. Although the advocates of modification of the law believe, that the object will be gained by providing the tenant with the right of permanency in his holding, yet we are very much afraid and have no hesitation in stating that the interference of the law, instead of facilitating the matter, will put a great hindrance in the way of progress. When a work is done against the wish of the parties concerned, and is carried out by force, either legally or otherwise, there is no doubt that the party against it will leave no stone unturned to stop its progress and to prevent it from being carried out. In such a case what will the poor tenant of a four acre holding do, when for making a well the landlord will not allow him to cut wood from his trees, for burning the bricks, or to dig the clay for the bricks, or to make the kiln on his land, and so forth. Is it possible for the poor tenant to provide all these things from his four acres? Is there any contractor or builder who will take the work for the tenant and provide the materials for him? Perhaps it will be supposed that he would not care to get the wood for the kiln grates from the landlord, but would buy it from other neighbouring people, and the right of taking mud, &c., would be made common to all, and that landlord who interfered would be liable to an action. There we are! bringing actions and getting cases decided is not an easy matter, and so difficult that we can hardly explain it. Perhaps the whole money intended for the work

will be spent in obtaining justice, and the work will be postponed to some other opportunity.

We must not omit mentioning here that as far as our enquiries and observations go, we know that all the people who have any experience after sifting the question of the slow progress in the work of the wells, believe that next to the poverty of the people, the drawback is to a great extent due to the interference of the existing law in the matter, by (1) complicating the freedom of contract, by one kind of rules and regulations for all sorts of cases in one Province or in a large part of a Province; and (2) by inviting litigation between the parties concerned, relying on which, they are apt to act without regard to each other's wishes. We will make the meaning of this clear by an illustration. For instance, in the Province of Oudh, according to section 22 Chapter II., Oudh Rent Act, no landlord can oust a tenant who has constructed a well in his holding, or raise the rent for a period of 30 years, unless he pays compensation to the tenant. In the case of a dispute in the amount of the compensation *the law court fixes the sum.* Generally speaking this provision hold good in almost all sorts of cases, and in every part of the Province; whether the well has cost one hundred or one thousand rupees has been sank in a very easy or very difficult soil, with the consent of the landowner or without it; is of less or greater use for agricultural purposes, has been built by self labour of the tenant or by actual outlay of money. Every one in every case is bound to obey this law; though after a case is brought into court, the above points might be taken into consideration; but this consideration at any rate makes the case more complicated. However the necessity of the uniformity of the law is unavoidable; and were the cases settled otherwise than by being brought into court, the law would not have been so injurious to progress as it is at present. But the greatest difficulty is this, that the parties have to swim an ocean of troubles when an ill-feeling or any dispute arises between them and the *law court* has to settle the matter. Further, relying in many cases, on this especial law, they do not try to do the work harmoniously, or even fairly. In many instances it has been seen that a landlord, having given a verbal consent to a tenant, made him spend his labour and fortune in constructing a very substantial well; and afterwards, either being influenced by his greediness or tempted by unforeseen ill-feeling, he takes it into his head to pay the compensation and take possession of the well, as well as of the improved holding. His interest is of course to pay less, and the tenants to ask more. It would be much better for the poor tenant were he compelled by law to make a previous agreement with his landlord as to the sum he should receive for the well, in case of his being dispossessed. But as he has the Law Court to apply to, unfortunately his hopes of success will not let him settle the matter quietly; and there being no estimate of the cost, no value being previously settled, the tenant believes that by going into the Law Court, either he may retain possession of the holding, or perhaps receive more money than he has actually spent. On the other hand, it is also not uncommon for the tenant to build hastily without the knowledge of the landowner, a common sort of well; or to do the work with the consent of the master by making certain promises, which, after the work

is finished, he does not fulfil, and then to claim as compensation ten times more than he has really spent. Now the landowner has the Law Court to defend him and to bring an action. But in either case, when the action is brought in the Court, it becomes such a tedious matter, that both parties repent their folly in the end. The Court-Amin is sent to make an estimate of the cost; sometimes the Judge, who has to decide the case, has to go to see it. The arbitrators sometimes are appointed by the Court; but one of the parties at the end of their investigation, challenges their decision on the ground that they are too favourable to the other party. The Courts of Appeal are opened to both parties; and, like a gambler, at each failure, their ambition for success becomes more keen; and they persist in going to the very last stage of the struggle; and even ruin themselves with costs. One case, including appeals and the revisions, is sometimes prolonged for several years. Under the above circumstances, it should be plainly understood that it is not chiefly the provisions of the Act (which gives the possession to the tenant for 30 years); but it is the difficulties which arise afterwards, if they get involved in a law suit, which make the landlord hesitate to give the permission, and the tenant to spend labour and money in the work. Were the matter left simply to the free contract of the parties, the progress in making wells certainly would not have been so slow. The tenant would have obtained the consent of the landlord to certain terms. In cases of dispute, under the common law of contract, each party would have been made to fulfil his agreement. In deciding the cases, a decree by arbitration would have been considered sufficient. Certainly in the present condition of India justice can hardly be expected by this means; but there is no certainty of justice by the present means either; and there is no doubt that it is involved in hundreds of troubles. And from this it can be understood that the more the law is interwoven in the matter, the more difficult and troublesome it will be.

We are afraid that we are going astray from the real point of the question, we must return to it now. In short, for the improvement of agriculture, the first thing we require is water, and we are very short of it. The chief reason for our not providing the same, is our poverty, or the want of the capital and energy. The poor people who have no means, provide the water, temporarily, and by hardest labour. Instead of brick-work cylinders, some of them sink wooden ones; others prevent sand by a cylinder, made by weaving the branches of a bushy plant called "*Rusa*." These wells do for one *pur*, and stand ten or twelve years. But many are not able to do this even; they simply dig a well in the watering time, and after a few days' work, the earth falls in, and it becomes useless. In some places every morning they first go down into the well and clean the sand that falls in during the night, and make the well useful for the day. Some of them draw the water for two or three hours, and stop work for about the same time, to get the water accumulated. The difficulties which they have to face, and the hardest labour which they have to bestow, no one knows but themselves.

In such a need, and the scarcity of water, which we should call the primary or the vital power of all the improvements, and the mother of all the success of farming in India, what improvement could be beneficial

in agriculture? In the first place, it is impossible that without money we can make any other improvements; and even supposing that we can make some, their effects will, at the end, stop on the supply of water. Every question that we touch in respect of the improvement of Indian agriculture, at the end it rests at this point,—for instance, we are in want of improvement in our plough oxen, but cannot do so; rather, it is impossible to do so without having a good supply of food for them. Without food, the present ill-bred, small, and the cheap oxen, which cost 30s. to 40s. for a pair, die by hundreds in dry seasons; how would the good and the large-bred oxen, which require to eat twice as much as the smaller ones, live in such circumstances? No doubt for good and large breeds we require good pasture at first, and for good pasture we must provide irrigation. (2.) We want a large supply of manure, for which we must keep a large number of stock, and the stock require food, but no food without water. (3.) The same difficulty is in the improvement of our dairy produce. (4.) Our implements are also in need of improvement; but for heavy implements good and strong cattle will be necessary. Morever, by deep tillage with the Caisar plough, the surface soil, which, at about two or three inches in depth, is rich in nutritive matter, will go down to the depth of nine inches, and the poor sub-soil will be turned up, which of course will be injurious to the crop. And even supposing that the surface soil is also made rich by more manure, but the efficacy of manure depends on a sufficiency of moisture to dissolve the nutritive ingredients. So instead of the amount of water required in the first case to penetrate up to three inches, in the second case would be wanted to moisten the soil to the depth of nine inches, otherwise the benefit of the deep tillage and of the large quantity of manure, would remain in a dormant state; rather, it will burn the seed and plant. In short, every branch of improvement springs from this one stem—"the abundance of the supply of water." We know all this, but cannot overcome the difficulty; and why can we not? The answer would be the same postulate; *i.e.* we have no *native capital and no energy*. Had we simply the means for doing the work, surely we would have done it at once. No lesson and teaching, no inducement, and no Government help would have been necessary.

We should not pass on without considering but very briefly one more point in this question, which is about the help of the Government and the foreign capital, and see what effect they have produced on our wants and difficulties. Finding us lack energy, in other words, ignorant of the advantages of joint interest, as we have said before, the Government, instead of making us capable of doing the work, and giving us the lesson in economy, which is, how to collect money and how to carry on the work, tried to do it under its own influence, and perhaps found it easier to get it done by an efficient staff of its own officers, than to teach us how to do it. The Government obtained loans for doing the work—a greater share of which belongs to the foreign capitalists. Perhaps there would have been some difficulty at first in inducing us to give the loan on the same terms, and probably at first our gaining the experience of doing the work would have been at some greater cost of the public interest; but when once we had thoroughly

learnt the lesson of the public interest, which, in reality, is our own, there is no doubt that we should have made rapid progress in it. And the Government thus would have been released for ever from the anxiety. There is no reason why our hoarders should not have opened their boxes when they had once seen that their unproductive treasures would become productive. From the example of the Government Savings Banks, we can say that by the Government guarantee, no one has any hesitation in putting his money into the Treasury. And if, moreover, the people had known why the money is collected, and where it is spent; rather they would have taken a part of doing all this with the Government officers, all this would have been a further means of encouragement for them. But certainly trying all this was not an easy task, but a matter of great trouble; so the Government considered it convenient to meet the wants under its supreme power and majestic authority, and through its paid officers. For providing the water, two methods were designed and adopted—(1.) *Takawi*, lending money on interest, and on the security of the permanent right of the land. (2.) Construction of canals. How far the first method (Takawi) has been useful, and is appreciated by the people has been repeated several times in several places in the foregoing pages. The evidences collected by the Famine Commissioners and stated in their reports are quite enough to show the drawbacks and the difficulties of the help. Although the help was offered on very much reduced terms of interest; but the work being attempted by a mere handful of paid servants already overburdened with other works, and possessing no other means for carrying on the work excepting by the influence of their official and governing powers, so that the poor people found the business so tiresome and complicated, they preferred to keep themselves aloof from it. This kindness of the Government did not encourage them at all to do the improvements. The description of the whole routine of the work and the reasons of the difficulties would make the matter more clear to understand, but we prefer avoiding to go into the details; and for reference we consider enough the few hints which have already been given in the foregoing chapters and the quotation from the F. C. Report in the first chapter.

(2.) The canal works:—These works, which are done on a large scale and by means of loans, for which, from the date of collecting the money, whether the work be commenced or not, be profitable or not, the interest must be paid; is of course much more risky and difficult than the former one, hence is in want of greater care and the certainty of becoming profitable. Therefore often the only question of carrying out such a work in certain places remains under consideration and discussion for years and years. Often an enormous amount of money and care is spent, in obtaining the estimate and trying the experiments alone, and at last the proposed work is found to be unproductive or useless, and the idea is abandoned altogether. For instance, the case of Sarda Canal in Oudh, and making the Nurbada navigable in Southern India. No doubt when the Government is going to spend loan or State money on its own risk and responsibility, every precaution is necessary. At any rate the result of this method—whatever its ultimate benefit may be—is to make progress very slow. Had we been doing the same work our-

selves and with our own money, of course we would have taken all sorts of precaution too, but certainly would have not been so sensitive, as the Government is, which has to take the trouble of doing a work for us and in case of failure would have to bear the loss and blames into the bargain. No less than 20 years have already passed, but it is not decided as yet, whether in Oudh spending money in digging wells or making canals would be most beneficial. The experiment of digging wells in Ava estate and other places is going on. The delay in the progress of such a work besides the above reason is also due to the limited amount of the capital which is either spent from the Imperial taxes, and the revenue or from the loans; also to the limited means of supervision and administration, because the few head officers besides their numerous other duties cannot spare, but very little of their time and attention to the work in question; therefore after one work in some part of the country is entirely finished, then another is taken into hand. The work of the Ganges Canal though proposed about half a century ago is not completed as yet. After a quarter of a century the level is going to be taken now for enlarging it from Cawnpore to Allahabad. In Oudh it is as yet the first hour in respect of starting any such work. Sometimes the idea of the Sarda Canal work is given up altogether, and sometimes the rumour spreads that it is to be reopened soon At this rate of progress, which is owing to nothing but the sense of responsibility and fear of risk, and the work being left to the care and supervision of the few officers of the Government, we have to wait at least one thousand years, before every nook and corner of India is well supplied by canals and agriculture is improved by irrigation. Several great famines and hard seasons, since the canal making was commenced have swept away innumerable lives, and reduced many a farmer to the state of bankruptcy, thinned the number of cattle and reduced them to very skeleton, hence our farming instead of improving is going down every day; but we must wait and remain under the same condition and face in future the same calamities, till the opportune time arrives:—that is, when our protectors have thoroughly made themselves satisfied that the outlay will pay the cost and interest, and when the funds and hands are released from the works of greater importance and first designed. Further, we are afraid that the work (canal) will fail to do good, and will be found impossible to carry it in all parts of the country. The people of such parts will still remain in need.

The question whether the irrigation by canal is beneficial or injurious is very important, and deserves consideration when it comes forward, but it is an old one and nothing is left by the party in favour or against it to do justice in the matter. It is beyond our scope to decide whether canals are best for us, or wells. We are in want of water, by whatever means it may be provided. However, the result of the discussion if sifted carefully does not seem much in favour of the canals.

N.B.—We have no time and space to show and prove that the canals are not so good for us as the wells; if the reader wants to know he should see the notes and opinions of the eminent authorities in favour and against the question, such as the work of Colonel Corbett, "The Climate and Resources of Upper India." The notes of Mr. E. C.

Buck, the Secretary to the Government of India of the Department of Agriculture, corroborating the remarks of Colonel Corbett, also his report No. 283a of 17th March, 1874. The opinion of the Honourable C. H. T. Crosthwaite, C.S., in the Settlement Report of the Province, paragraph 28 to 46. The opinion of F. N. Wright, C.S., in the same report, paragraph 23 to 24. The remarks of Sir George Campbell before the Select Committee, &c., &c.

As there seems no other method, but making canals to provide an ample supply of water which would cover the cost of direction, construction, supervision, and administration, together with the interest on the borrowed money; therefore the disadvantages which result from it are necessarily neglected. No doubt when water is provided by means of the canals, whatever disadvantages there may be, the produce of land increases very much. The area of sugarcane and indigo cultivation increases enormously. The rich Maharjans come forward and start indigo factories, invest their capital and derive benefit from it. But the question is how far the improvement does good to the poor peasant in general; and increases the wealth of the country? The answer would be, that comparatively very little. If by purchasing water and paying Rs. 2 for it, he increased four maunds more in the produce of his field, or even if he raised two crops from a bigha of land instead of one, each crop being ten or twelve maunds, and paid four rupees for irrigation, the margin of net profit to him would be the increase in the produce minus the cost of the water; and the increase in the wealth of the country would be profit from the increased produce of the land, minus the interest on the foreign capital, and also minus the cost of the pay of the highly-paid officers connected with its direction, construction, supervision, and administration. By balancing the debtor and creditor sides at the end, the balances in hand would either be merely nominal or nothing. We are not prepared to estimate or actually calculate the rate of which the prosperity of the country by the application of the foreign capital and efforts in the works in question is increasing, but have no hesitation to say, what is unquestionable a fact, that had the capital been of the country and the work done by the natives, the whole profit or increase in the income would have been left to the country and added to the common wealth. For instance, to those farmers who build their own wells and possess their own oxen, and apparatus, and work themselves, the cost of irrigation is really nothing. Those who employ labourers, six of whom are required for distributing and lifting the water at the rate of one anna each, have to pay no more than six annas* per bigha. The cost of only two waterings from the canal on the Government Experimental Plot at Cawnpore is calculated to be Rs. 3-12 † per acre = Rs. 2-8 per bigha. The cost is equivalent to the most beneficial and expensive kind of irrigation by the *gharra* (manual power 63 hands) which for example, had been shown in the illustration of wheat calculation, *i.e.*, Rs. 3-15 for three waterings. But if the advantages of three waterings from the well and the disadvantages of irrigation from the canal be taken into

* 16 annas =1 rupee or 1/8. † *Government Gazette* of North West Province and Oudh, July 31, 1880, part ii. page 277.

consideration, the latter will be found most expensive or not good to its value. Perhaps it will be said that in case of the canal being handy, the farmer need not have the expense of keeping the bullocks, and by reducing this expense, the increase or the payment for the cost of irrigation, would mean nothing. And so the farmers do; but the decrease in the number of cattle decreases the amount of manure, and a plentiful supply of water without enough manure, becomes injurious to the crop as well as to the soil. After all, all the advantages and the gain of the irrigation from the canal, if counterbalanced by this one but very serious defect, that the poor people fall victims into the hands of the ill-paid menial servants of the Canal Department, will weigh as nothing. It would be going beyond the limits of the question to describe what the difficulties are, and why the people bear them. They are not of such a nature that are unknown to public or to the Government officers. For instance, Sir George Campbell speaking before the Select Committee says :—

"The failure of irrigation works with regard to distribution was due to the difficulties of providing each ryot with a separate supply for his own fields, and not to the unwillingness of the natives to take water. They did not take water because they did not want, or because they would not pay for it, but because they could not get it in the way they required it. They were obliged to take it as they received it from the Irrigation Works Department. Difficulties also arose as to the tenure of land. The ryot's fields being so small and scattered, it was impossible to supply one ryot's field if other ryots combined to take water at the same time."

In India agriculture is one of the few works that requires no stimulus from Government; the people do it entirely themselves; but by opening the Canal Department, the law and the Government's connection is interwoven in this. Of course it supplies water, but hundreds of difficulties and the troubles for the poor agriculturist are engendered by the same.

Further, not only the means of water, but apparatus or machinery to supply the water with less cost and labour, and in less time is also necessary, and will be very useful and of great improvement, but as it requires some outlay, therefore, the majority of the people are unable to afford it. The chain pump that had been exhibited in Lucknow in the Agricultural Show through the Department of Agriculture is the cheapest and simplest of the kind, but it can lift the water only from the depth of 24 feet, and if it be improved for use at a greater depth, the cost of the work done by the same increases the cost of the same work done by manual labour. Although the price of the pump is perhaps only Rs. 30, still the peasant farmers are unable to buy it. The wheel which is called *Rahet*, and is used in Punjab is of greater service, but the same difficulty prevents its introduction.

14. Next to the water, in importance comes the manure: any improvement in quantity or quality of the same will be the cause of improvement in agriculture. The best manure which is known as yet is the farmyard manure and dung, which we call *khad* and *pans* and the most suitable and effective, rich manure for the grain crops is excrement

of sheep. The advantages of these over any other artificial manures are many. These manures improve the character of the soil chemically as well as mechanically, and contain all the necessary ingredients in fair proportion. Ten tons of dung contain 1¾ tons of organic matters, which is equal to the same matter in an ordinary crop of wheat, and the amount of nitrogen which it contains is equal to 13 cwt. of Peruvian guano. One ton of farmyard manure contains 9 to 15lbs. of nitrogen and potash, and 4 to 9lbs. of phosphoric acid (p. 26 Chemistry of the Farm : by R. Warington.) This is believed by all the scientific people, the only thing is that its effect is rather slow, but at the same time more durable than the artificial ones. In India where the range of temperature and heat is much greater than in England, certainly the chemical reactions which depend on oxidation would be quicker than in England. The effect of farmyard manure lasts for several years, while of the artificials only for one year. By the experiment on Rothamsted Farm it has been found that mineral manures only act one season, while farmyard manure four years. The former manures are washed away by the rain, and without sufficient moisture they become uuavailable or more injurious than the other. In India where both the drought and rain are of much greater range than in England the last mentioned point is worth consideration. Another very great advantage of this manure especially in the case of India is, that it has great retentive power of moisture. Its application improves the hydroscopic condition of the soil. On the Rothamsted Farm of Sir J. B. Lawes, it has been found that by the application of the artificial manure, only 855 tons of water was available for plant, while by the application of farmyard manure 1019 tons. In India where water is the chief thing for agriculture, anything that retains water would be most beneficial. By the experiment of the above named eminent authority on barley, it was found that the rape cake equivalent to 95lbs. of nitrogen, produced less quantity of grain first year than 82lbs. of nitrogen in ammonium sulphate for first two years. Hence organic manures are of great value to light sandy soils, as they become only slowly decomposed during the first year, but the residue becomes gradually available for succeeding years. In this Province of India where the soil is very light, certainly these manures are best of all. The manure in question is called general and typical manure, the farmers in England are first in want of this and apply it, and after this other artificial manures. The reason for using artificial or purchased manure is this : That as the effect of the organic manure depends on oxidation, and this effect when it stops by reaching to a certain point, then they stimulate the manural action by artificial means. In India where the quantity of the farmyard manure never reaches to that point, it is ridiculous to think of the introduction of any costly purchased salt for manure. First, we must increase the quantity and the quality of our long known and most beneficial manures, which are the Khad and Pans. For grain crops, as wheat and barley, very seldom purchased manures, are used in England. When wheat is sown after bare fallow, they apply dung ; and for wheat after seed, the stubble of clover, and droppings of sheep and cattle, which are fed on the land, is quite sufficient as manure. So in the case of barley, which is sown after root, the crop of roots fed by sheep, make the

field rich in manure, and it is quite enough for a crop of barley. Sometimes it is more than enough for a barley crop; hence wheat is again sown in the field. Very seldom, when the field does not seem prospering, they top-dress it with nitrate of soda. The artificial manures are especially used for pastures, potatoes, cabbages, and the other root crops. Above all this, the greatest advantage of the manure in question is, that it costs nothing to the farmers (especially in the case of India). What they give in food to the stock, is returned to them, in shape of manure, and the beasts are fattened, or the dairy produce is obtained into the bargain. As long as we could have command over this inexpensive means of improvement, it is absurd to increase the produce by increasing the cost. Of course when this means, reaching to its extreme point, fails to give further effect, it would be necessary to think of the other means. Economy is the chief point in worldly affairs, especially in those that are connected with making profit. In his report on agriculture, the Assistant Commissioner, Mr. Little, page 47, gives his opinion in answer to this question, "Is the produce of our farms less than it might be?" as follows: "To this" he says "I reply, undoubtedly it is; but the answer requires some qualification. I am confident that those who speak of an indefinite increase, or even of doubling our present produce, are misled and mistaken. . . . Indeed there is good reason to suppose that many of the most enterprising men have burnt their fingers in the attempt to force production; and that in the future, a most simple system of cultivation will have to be pursued. It is surely an economical absurdity to grow an additional two bushels of wheat, at an increased cost of one pound." The same authority in page 49, writes: "And some cases have come under my notice where large fortunes have been lost by husbandry, for continuous corn growing, with the help of nitrate of soda." In short, on the first step in respect of the manure all our improvements depend on the increase of the farm yard manure; but unfortunately it is decreasing every day. In the old times, as it has been stated in the introductory chapter of this book, the area under cultivation was much less, and the number of dairy cattle much greater than they are now. All the jungles, and mostly common pastures, and orchards were made corn growing fields. This not only increased the cultivated area, but very much reduced the quantity of the food, and this scarcity of food killed the beasts and reduced the amount of manure. Not only this misfortune decreased the quantity of the manure, but another cause seriously destroyed it, which is that by the jungles, and the wild bushes being cleared off, the supply of the fuel for the poor people, who used to get it for nothing, exhausted. Now for cooking their meals and warming themselves in winter, they mostly depend on burning the dung. No fuel is sold in the country, and there are no other means to get it, and had there been some means, no money to buy. There is another point worth mentioning, that the quantity of the manure depends on the nature of the food of the beast. The best return and the cheapest manure in England is found to be the excrement of the beasts fed on cake and corn. What manural value in India could be expected in the dung of the beast, the plough oxen especially, which in their whole lives in general cases do not see what cake and corn is. Rather very seldom or never, except for a few days, about the time of harvest, they are fed

even on green straw or forage. The well-to-do farmers on the day of Kurmundan, that is, when they finish the ploughing for the year, give a treat to their oxen, viz., give each of them that have been employed in the work, a quarter or half a pound of corn; this is all the substantial food the poor animals enjoy during a year. The usual and the commonest food of the beast is grass or dry straw, and in many cases in dry and bad seasons the cattle of the poor peasant are fed on no other thing but on the straw from the thatchings of their huts. The cakes of Til (oil seed), of Dana, (Poppy) of Barrai, (Safflower) is a luxury for the men. Many a poor man eats it with goor (raw sugar) as a luxury, and generally makes his breakfast on the oil-bearing seeds, having parched them in hot sand, or simply on the cakes of the seed after the oil has been extracted. It is also proposed and recommended that the people should grow fodder like those in England for their beasts; the reason why this cannot be done will be explained hereafter.

Now it should be considered what scientific farming can do here, and what improvement is possible in such a condition. It is very easy to say and argue that Indian agriculture is in need of improvement; and that by improvement the produce can increase; we admit that it is quite right; but how the improvements could be admitted, it is really difficult to answer. In the present example, for instance, leaving all other purchased manures aside; if we could make improvements in the quantity and the quality of Khad (farm yard manure) only, we could enormously increase our produce; and for improving the Khad, nothing else is required but increasing the number of the beasts; feeding them on good nitrogenous food, making Khad under sheds, that the ammonia may not be washed away by the rain. Increase in the number of cattle and in their strength, will not only give us good and plentiful manure, but we should be able to do good tillage; and by keeping milk beasts, the dairy produce will increase; but where is the money to provide all these things? Perhaps some would consider that this is a costly way for providing good manure, and that the want of the same can be substituted by some other means; but anyhow, some manure would be necessary. Never mind Khad—but all other manures, such as cake, nitrate salts, or any green manure, will require some cost; hence, firstly, where is the money to spend, and secondly, if by spending money, like purchasing irrigation, we should increase anything, would there be much profit to the farmer?

15. Next to manure, we are in want of good cattle; rather, after water we should consider cattle very important, because, by their improvement we can get manure for almost nothing. But the cattle are deteriorating every day, which is a sad loss to agriculture. In Nawabi time, as it has been fully explained above, there were ample means of grazing, and this gave the people good opportunity of keeping large herds of strong bullocks and milk kine. As the whole traffic in the country was carried on by the bullock-carts, and for the conveyance and travelling there were no other means but the bullock-carts, therefore the improvements in the breed of cattle was much patronized, and the people were able to offer high prices. This had been a great encouragement to the cattle breeders, who used to do their best in producing good strong beasts by selection and crosses. But as the area of land under plough enormously increased lately, the

people were obliged to increase the number of the plough-oxen at the expense of the dairy beasts and the animals of good and costly breed. The scarcity of fodder and the hard work keep them in a very reduced condition. The offspring of such animals, no doubt, have a tendency to deteriorate instead of improving. Not only this, but there has been another cause which has reduced the beasts in number and quality, which is this, that in Oudh for instance, in all the Tarai district (valleys of the Nepal mountains), there were extensive and very thick jungles. In Khiri, Gonda, and Bahraitch districts when the jungles were not cleared off, breeding of cattle was a very large trade. Tharoos, but mostly Serverya or Sarjoopari Brahmins and Baonas, had this business and the trade in their hands, and they had good opportunities for breeding and rearing cattle at small cost and care. The whole country of Oudh and all the neighbouring districts of the North West Province were supplied with the good, heavy, and improved plough and draught beasts from the above named places. The general name for the cattle is known to be Utterha, but the three most famous species are Dhowrera, Perehar, and Khairi garh. Owing to the jungles being mostly cleared off in the time of the English Government, great drawbacks occurred in the trade, and the above named breeds in their respective localities, through the same reason as decrease of food, not only degenerated in respect of vigour and the loss of good characteristic points, but also became very scarce. For sending to the Agricultural Show of Lucknow in 1881, the Government Officers of those districts, in spite of trying very hard could not find animals of genuine and of superior quality even in the very centre of their localities The supply of the beast in that time (Nawabi) being greater than the want, they were sold on much easier terms than at present. The practical method of selling the cattle was, and up to this date is this; that in the rainy season the dealers with large herds go to the different parts of the country and sell the animal on credit to the known customers, or on the guarantee of the landowner to the tenants, payment being made in three instalments Although the same custom still exists, yet the price is so much increased that now they have to pay twice as much as they used to pay before, and yet the animals are not half so good as in those days. Further, however, the animal may be of better breed, but when they go to to the tenants, they are reduced by starvation to a very low condition, and to the mere shadow of their former existence. Only three months in rainy seasons July, August, and September, if the season is good, they get some green fodder, the grass, but in this part of the year they have to work hard, and in consequence become greatly reduced. After this, for a few days in the time of harvest they are fed on the stubbles of the crops. In April and May it the farmer is not obliged to sell his straw for paying the dues of the landowner and the Mahajan, they get bhoosa (chaffed straw.) Besides these in other months they are simply kept alive on a diet of shrubs, leaves of trees, house thatching, and by the hard labour of all the members of the family of a peasant farmer, who by scraping bring the dry roots and stems of perennial grasses from the usar and pasture land.

The same may be said of the breeds of the bullocks used in conveyances,—the Bangraha. This breed was very famous for its

activity and swift trotting, and has been largely bred on the sandy soil of Mullawan and Bangarmow, Herdoi District and in their neighbourhood. This breed is still more degenerated and has decreased more than the above, because the demand for them has decreased about 99 per cent. The pasture land in those districts has been converted into mothi and barley crop growing fields. For "*raths*" bullock-chaises, the up-country breed, viz., Chambal-pari, from Gowaliar and Agra and the most handsome and largest breed of Mewat were used, which now, except in their especial localities are not even seen in other neighbouring districts of the country.

Under such conditions it is always talked of, and to a certain extent is also tried to make improvements in the cattle; and one step that has already been taken by the Government during the last 25 years is this: that in each district one or two best bred bulls are kept for the purpose of serving the local kines. For instance, in Pratab Garh which is one of the smallest districts in the Province, having an area of 1436·5 square miles and a population of 850,000, there are kept two bulls in the head quarter of the district. No doubt the plan was very good for setting an example to the people, had there been any chance for its becoming successful. But as the success of every such plan depends not merely on setting the proper example, but almost entirely on removing the causes that interfere in the success or providing the means that stimulate the progress of the plan; consequently in spite of such a long perseverence as of 20 or 25 years, and all the expenses of keeping the bulls, no improvement in the breed of cattle can yet be seen, even within the limits and the vicinity of the very head quarter of the District—Pratab Garh. Without providing food at first, it is certainly ridiculous to expect that crosses alone improves the vital power of the animals. Moreover scientifically serving the very small dam by a very large sire is also very objectionable, this theory has been found true in India too. For instance, the extract of the view of Koar Now Nehal Singh Tchsildar on the Batisar Cattle Fair, dated November 22, 1880, which is quoted in the Report of the Department of Agriculture and Commerce of the Province, proves this fact. He says that the experiment has proved that by the sire of 54 inches high, no cow of less than 44 inches in height should be served. The cow which is 10 inches less than the bull, yields a very weak calf, and the milk of the cow is not sufficient to nourish its broad bone young one. In many districts of the Province, for instance, Pratab Garh, &c., where the cows are much smaller than that, certainly the plan could not be beneficial. The improvement of cattle in every point comes at last to rest on the improvement of food. Therefore, along with the suggestion of the improvement many people think that the farmers, as in England, ought to grow food for their cattle. The introduction of root crops such as mangold wurzel, and of artificial grasses such as lucern and sainfoin, &c., has been recommended. But those who think and recommend this, have certainly not taken the difficulties of the people into consideration. While many of the people during several months of the year, viz., after the periodical crops have been harvested, and the dues of the landowners and of the Mahajans have settled, can keep no food for themselves, and simply live, upon the

loan of the grain from the Mahajan, Mahwa and Am fruits, and wild herbs; and in bad seasons keep their existence by the meal made of the seed of sawan and chakeri grasses, which they scrape from usar and pasture land. How is it possible that these men could cultivate and store food for their cattle? Had they been able to keep only the straw of the crops that they produce, which many of them are obliged to sell for paying the demand of the Zemindar and the debts of the Mahajan, their cattle would have been better off. But, unfortunately, their wants are so pressing that they cannot do so. If they grow a crop of root or of any of the artificial grasses in one bigha of their eight or ten bigha holdings, what would they eat, and how would they pay the rent of that bigha? Further, these crops would require more water and good seed and shed for storing them, where are all these means available for them, or how could they afford them? It would be said that this proposal is meant for large and well-to-do farmers who can afford all this, but their cattle are not starving, they always get enough and more substantial food. If these few would grow food for cattle or improve them to any extent, it could not increase the material property of the country. Unless we would decrease the burden of keeping the existence of all the human life from the produce of the land, it is impossible for us to be able to attend to the wants of the beasts. If our men should find some opportunity to make their living by some other means, besides growing corn and living on it, then, of course, the land would be released, and then it could be used for providing food for the cattle. But no other means of livelihood can be provided without capital and energy, hence the result is that without this the improvement in cattle is impossible.

16. Next to cattle the improvement in implements is of great importance, and no doubt could be the cause of improvement in agriculture. But it depends on two things; firstly, the same and the principal thing, the cost, "capital," and secondly, on the strength of the animals of draught. In the absence of either of these two things the question has no meaning whatever. From the above examples of the wheat cultivation in the two countries (India and England), it will be seen how very few, simple and clumsy implements the Indian farmers use in husbandry; and how many different kinds of implements are used in Englaad for the same work. *i.e.*, simply for growing wheat. For other crops many other different kinds of implements are used. By the use of these implements the amount of labour to produce a crop of wheat from a bigha is reduced from 95 hands in India to about three hands in England. In India for every kind of crop and of every season there is one Har, a crude form of swing plough; the price of this is about Rs. 2 to Rs. 2-8,—about 3s. to 4s.; but there is no regular firm or shop throughout the country from which people could buy these ploughs ready made. Indeed they cannot afford the money to buy them. General practice for providing the implements is, that, the farmers provides wood generally of Babool, which he often obtains gratis from the landowner or his friends, and buys a tine of iron for 4 or 6 annas. (6 or 7 pence). These two things he gives to the local carpenter who has not got more than two or three tools in his workshop. The carpenter makes the plough for him, and keeps on repairing it when wanted. In the

harvest for all his work he receives a share from the crop harvested. The best beam for the plough is considered that of sall wood; its cost is about 12 annas or 1 rupee (1/8). By the application of this beam, the implement is greatly improved, it becomes easier to work, and lighter for the oxen to pull, but the people cannot afford it. Once, for example, I had counted sall wood beam ploughs in three districts—twenty ploughs in each. I do not remember the exact number now, but I think I had found six out of twenty in Allahabad, three out of twenty in Roy Bareli, and one out of twenty in Pratab Garb districts. The ploughs were of course of the peasant farmers. It is useless here to give all details, such as the terms on which the carpenter makes and repairs the plough, also how little or how much work can be done with it. The simplicity of the implement will be understood by the very few different parts of which it is composed. (1.) Hars (beam). (2.) Tonda (sole). (3.) Phar (share). (4.) Panchar (wedge). (5.) Mooth (stilt). In the whole of the implements not a single nail, screw, bolt, or nut is used, because firstly, the maker generally has no tools to make these, and secondly, by adding any more workmanship or materials, the implement will become more costly, and the people would not be able to afford it. The Har (plough) is so imperfect in its purposes, that it takes a considerable time to do the required amount of work, which, by an improved implement, can be done in much less time. But money is so very dear to the people, that they are obliged to perform the work at the cost of any amout of time and of their own labour, but cannot facilitate it by undergoing a little more expense. The Caisar plough, which, after due consideration, has lately been invented, is very good of its kind. The improvement that has been made is very simple—that is, the share is made of sheet iron, and a small plate of iron is attached to it, and is turned a little on one side, which fulfils the want of the mould-board. These are attached to the sole by nails and fastened by iron straps, secured with bolts and nuts. The price of this complete implement is Rs. 6=(10/6), but it has been found quite impossible on the part of the majority of people, to derive the benefit from its use. At first the question of cost is the greatest hindrance in their way. Secondly, the miserable beasts have been found quite incapable to drag it. Thirdly, the native blacksmith generally cannot repair it when broken. It is simple enough to understand that all these difficulties are from no other reasons but their poverty, and there being no capital in the country. They being poor, cannot buy it, and cannot afford purchasing, and keeping good strong bullocks, and the blacksmiths being of the same type, cannot afford to buy the tools, by which they can repair it. To make myself acquainted with the question of this new, cheap, and improved implement when in India in June, 1881, I purchased one Caisar plough from the Department of Agriculture and Commerce; and as I was doing no farming, therefore I gave it first to several peasant farmers to try the experiment, and also showed it to some blacksmiths in the Pratab Garh district. In the majority of cases I found that the three above mentioned difficulties unavoidably lie in the way of these people. Some said, if they work longer with this implement they are afraid their oxen will die soon. Some complained that the tension is very great, so that the beast cannot walk so quickly; hence it takes more time to do a certain amount of work. Then I gave it to two

of my friends, landowners, who do home farming; but on account of leaving India soon after that, I did not see the result of their experiments. The above remarks, we believe, are quite enough to give an idea that improvements in implements, however advantageous they may be to the agriculture, are impossible to introduce. The above described rude (1) Har, and (2) a log of wood for breaking clods; (3) for sugarcane fields, a hand spade, which costs half a rupee, 10d.; (4) for weeding and scraping grass for cattle, one Khurpa (flat sickle), costing three-quarters of an anna, 1 penny; for reaping crops, one Hasya (curved sickle) cost 1 anna, 1½d. These comprise all the implements of a peasant farmer. The most expensive tackles are for watering. The Baryat or rope, they make by themselves, but have to pay for the hemp, which cost about 8 annas, 10d.; and Charsa (cow hide for water bag), owing to the decrease of cattle, has increased four times in value, now it costs from 2 to 4 rupees (3/4 to 6/8.) This makes the full* list of the apparatus, which all the farmers use in husbandry, and many of them are deficient even in these, and do their work by borrowing (especially water apparatus) from their neighbours. But the disadvantages in husbandry, which is done by means of these implements, is this, that not less than 95 hands can raise a crop of wheat from a bigha (two-thirds of an acre.)

Now we should see what is the meaning of the scientific agriculture, and what are the implements that have reduced the 92 hands to 3-9. A complete list of all the implements and the machinery that are required for a well managed farm, will be considered only a theoretical example, but not a practical one, therefore we give a list here of the implements that are in use in the same farm, the cost of raising a wheat crop on which had been calculated. Although these do not make a complete list of all the apparatus that are required on such a farm, yet they are enough for all the necessary works that are carried on there.

List of Implements and Machinery, &c., on Mr. Swanwick's Farm, called Royal Agricultural College Farm, at Cirencester, Gloucestershire, of 500 Acres.

Name of Implement or Machinery.	Each @. £	s.	d.	Total Value. £	s.	d.
2 Hereford skim ploughs ...	4	5	0	8	10	0
6 Ploughs	4	10	0	27	0	0
2 Four horse harrows	3	10	0	7	0	0
1 Pair of handled drags ...	6	10	0	6	10	0
1 Heavy 4-horse drag	6	0	0	6	0	0
1 Staffordshire harrow	8	0	0	8	0	0
1 Pair grass seed harrows ...	2	10	0	2	10	0
2 Chain harrows	3	0	0	6	0	0
4 Horse hoes	2	10	0	10	0	0
Carried forward ...	...			£81	10	0

* The large and well-to-do farmers, in addition to the implements, keep carts too, which cost from Rs. 30 to 50, £2 6s. to £4 3s.; and medium ones Ghuri a basket attached on a wooden axle and two pulley-like wheels, cost Rs. 1 to 2 = (2 to 4 shillings).

Name of Implement or Machinery.	Each @. £	s.	d.	Total Value. £	s.	d.
Brought forward ...				81	10	0
1 Crosskill roller	20	0	0	20	0	0
1 Cambridge ditto	15	0	0	15	0	0
1 Heavy flat ditto	12	0	0	12	0	0
1 Light ditto ditto	6	0	0	6	0	0
1 Wooden ditto ditto	4	0	0	4	0	0
1 Cultivator	7	10	0	7	10	0
1 Wheeled horse hoe	6	0	0	6	0	0
1 Corn drill	30	0	0	30	0	0
1 Manurial water drill	30	0	0	30	0	0
1 Seed drill	18	10	0	18	10	0
1 Dry manure ditto	18	0	0	18	0	0
2 Seed barrows (Broad cast) ...	4	0	0	8	0	0
1 String binder	60	0	0	60	0	0
2 Self-delivery reapers	31	0	0	62	0	0
2 Mowers	18	10	0	37	0	0
1 Hay maker	15	15	0	15	15	0
2 Horse rakes	10	10	0	21	0	0
6 Wheelbarrows	1	5	0	7	10	0
10 Carts with harvest frames ...	16	0	0	160	0	0
3 Harvest carts	17	0	0	51	0	0
2 Hay collectors	2	10	0	5	0	0
				£675	15	0
Machinery and Locomotive Engine.						
1 14-horse-power fixed Engine ...	300	0	0	300	0	0
1 Thrashing machine complete ...	112	0	0	112	0	0
1 Winnowing ditto	12	0	0	12	0	0
2 Water carts with pumps ...	23	0	0	46	0	0
4 Turnip cutters for sheep ...	6	10	0	26	0	0
1 Pulper for root	4	0	0	4	0	0
1 Turnip slicer for cattle ...	5	0	0	5	0	0
1 Weighing machine	12	0	0	12	0	0
1 Grinding ditto	20	0	0	20	0	0
30 Sheep troughs, at (average) ...	0	10	0	15	0	0
50 Pigs ditto, at ditto	0	10	0	25	0	0
125 dozen Hurdles ... at	0	13	0	81	5	0
Grand Total				£1334	0	0
				= Rs. 16008		

Miscellaneous.—A lot of small tools such as hay rakes, forks, digging forks, picks, shovels, scythe and hoes, &c.

Besides the above mentioned Implements and Machinery, there are many other costly items which Indian farmers know nothing of, such as farm buildings, forge, tools and apparatus, harness for horses, &c., &c., which once provided, cause great facility and economy in doing the work. All other odd things, such as ladders, wooden feeding and drinking troughs,

&c.; if included, the total outlay on account of the implements, &c., will be about Rs. 30 = £2 10s. per acre, or Rs. 20 per bigha. This amount when once spent, with a little cost of wear and tear, reduces the labour bill to a considerable extent, and makes the English farmer derive the interest on his outlay, against so many difficulties and disadvantages that he has in the work, such as (comparing with India) enormously high rate of wages, hard soil to work, and unfavourable climate to face.

Here a very important point attracts the attention, which is this, that all the above mentioned Implements and the Machinery combined together, have been the cause of facilitating the work, and reducing the factor of labour. If only one or two of those be provided, they would be of not much use. But if all of them be provided for a farm less than 500 acres, the average outlay per acre will increase. On the other hand these implements are enough to work more than 500 acres, so if the leaseholder of the farm, by some means, could add 100 acres more to his hot dung, the average of the cost will decrease. In other words, in the example it has shown that the average outlay for this item per acre, is Rs. 30, but it would be of no consequence if anyone, by laying out Rs. 30, for one acre, expect to derive the same benefit. If the farmers in England had not the opportunity of holding large farms, and spending a large amount of money, it would have been impossible to make use of the said implements and derive any benefit from them. For instance, the peasant farmers in Ireland, however they know the advantages of this system and seeing their neighbours work with the implements, are acquainted with their use for a long long time, viz., since they have originated, yet they cannot use them. Even the very plough some of them are unable to use, so they work their fields with only hand spades. This proves that, showing the model or specimen of the Caisar plough, and making the people of India intimate with its advantages, is of no use. Simply this plan is not enough to make the people appreciate the improved implements; but the first thing which is wanted is to make them able to have it. Morever, if one or two of the implements would be introduced they will not be enough to do much good. The English farmer besides being fortunate enough as to have a large capital to invest, has also the opportunity to hold large farms. And this opportunity he found simply of his fellow citizens being engaged with other works, and not being dependent on land. However enterprising and scientific the people may have been, in case of all of them being dependent on the land, and each having a piece of ground enough to produce something from it, and live upon the same, how was it possible for them to use the implements? Now we come to the conclusion of the question of the improved implements, and ask the reader to think what is it which has given to an English farmer the opportunity of holding large farms; he will find it to be nothing else but the diversity of occupation. And what is the chief motive power for the diversity of occupation? Of course, nothing else but the native capital and the private energy. Therefore in India, first we are in want of these two things, then we could adopt improved implements and could derive benefit from them.

17. Next to implements the question of *seed* is most important. Our unfortunate exports which, roughly speaking, comprise nothing else but

the produce of land, specially wheat, cotton oil seed, cakes, &c., owing to the impurity of the samples in comparison to the same produce of other countries, have less value in English markets. For years and years complaints have been made by the Chamber of Commerce to the Indian Government, and encouragement in using pure seed solicited. Scarcely a month or at most a year passes in which circulars about this are not issued by the Supreme or Local Governments to their subordinate officers. It would be useless to refer and quote some of the discussions, circulars, and orders that have been issued with reference to this question. The latest one is the Circular of the Government of the North West Province, No. 33, dated Namital, the 22nd August, 1883. In this and in several others the best methods of cleaning, sifting, and purifying seed and its advantages have been pointed out. From time to time several measures have also been adopted to encourage the system and provide the means (see the example given in Chapter I. of "a few ounces of seed given to the farmers by Government to make experiments.") But the difficulties of the people, alas! have never been taken into consideration, otherwise the time, care, and the little money would have never been wasted in such a useless effort. It is not the case that the people do not know the advantages of good and pure seed, and require teaching and encouragement in this matter; but it is, the unsurmountable difficulties in their way, that they cannot do so. The methods and terms of obtaining seed have been already explained in the example of wheat cultivation in India. Many of them who are considered well-to-do keep a portion from the produce of their field for the next year; and the same seeds remain circulating for years and years within the area of a few acres of their holding. Although they do their best to keep good seed, true of its kind, and take all the precaution to clean it before sowing, yet as for a long long time the seed does not leave the ground from which it has been grown, therefore the grain produced from such a seed decreases in size and quality. Unfortunately, this even is not the case with all; the majority of them cannot keep their own seed. What they grow, immediately after harvesting a portion of it, they sell to the retail dealers in order to pay the rent; and the rest they give to the Mahajan with the interest on account of his loan of the seed that they had borrowed for sowing *(vide* seed under the example of wheat cultivation.*)* The Mahajan who lends the seed has no interest in its quality, therefore does not care which and what he gives to his customers. He generally does not sell the surplus, but keeps on increasing his stock of the grain, which he has to lend to the people. Whether the seed may or may not grow he would take his interest (50 per cent) *i.e.*, one-and-a-half seer for every seer of the grain lent. If the tenant (asami) would not be able to pay the Mahajan's debt from the grain he had produced, he would settle his account by selling straw or any other thing, because otherwise he would not get the seed from his Mahajan for the next year. However, the poor people try their best to get more seed than is actually required for the purpose, and sift it to get the well-matured and full seed for sowing. The small and the insect-injured seed thus separated, they either eat or exchange it for some other coarse grain. But their interest, at any rate, is to get a crop good in quantity

(the weight), whatever its quality may be. Moreover, the peasant farmer does not consume wheat; it is simply grown to pay the rent, but he wants something to eat; some grain which would mature soon and provide him a meal is necessary for him. Under these circumstances he mixes with the wheat some other grain, such as mustard, safflower, barley, and peas, &c. When his crop is harvested, he would not try to decrease its weight by sifting and cleaning it, but would be glad to increase the weight if he can by the admixture of other grain of less value and even of gravels. From such a crop which he had sown in one or two acres of his holding, he first settles the debt of the Mahajan. The Mahajan has got many other such customers, who all bring the small quantities on account of their dues to him. He takes the grain from all of them, which would be of course of different qualities, variously mixed with other seeds, and heaps it in one cellar; and this mixture of seed he gives to the same people in the next year.

Now, about the portion which he has to sell for money. In the country, there are no large markets in any place, and the produce which the peasant has to sell is not more than a few pounds. He now carries it on his own head to the neighbouring village market, where a few (half-a-dozen) retail purchasers come with their bullocks to buy the grain. Sometimes he takes only a sample of the grain to the market, and the purchaser comes round to fetch the grain bought of him. The grain bought of ten or twelve people from the same number of villages make a load for one bullock. As the retail purchaser has to make up his load by buying grain of so many people, who mostly have their sample nearly of the same type, what would induce him to give a higher price to one of them who has a sample of the very best quality to sell? And in such a case, what encouragement would their be for the grower to be very particular of the quality of the grain. The bullocks loaded with grain called Bardhi go to large markets and are purchased by the wholesale people, who make distinctions and classify the grain. However particular they might be, their store being made up by the loads of a hundred bullocks from a hundred different villages, how is it possible that their sample could be expected to be pure, good, and true of its kind? In America and in England where one farmer grows hundreds of acres of nothing but wheat, some of the fields are as large as one hundred acres, where he has seedsmen at his door, has money to buy, and the opportunity to make selection and choice in the seed; certainly he would produce good samples, which in the present condition of India could never be expected from that country. The effect of the bad sample in the foreign market is this, that I have seen in the Exchanges of London, Liverpool, Manchester, Glasgow, &c., that American and Russian wheats are sold for grinding and making bread for human beings, while our poor Indian wheat is sold mostly for no other purposes but starching calico or feeding pigs.

18. After reading this chapter and taking all the points into consideration, we hope that our readers will agree with us that in the present condition of the affairs of India and Indian agriculture there seems not much chance of introducing any improvement in husbandry. All such proposals seem simply to talk and make a fuss about; but produce no practical benefit whatever.

Those who would wish to see India prosperous and improved, ought to lay first the foundation, in other words, provide the basis of all success, which is, *the native capital and energy*. When this foundation is laid and secured, they will then be able to build the whole edifice of the improvement that can be obtained by the help of the Government—modification of the law—improvement in the commerce—and the agriculture. At the conclusion of this chapter we remind the reader of the phrase that has been written in the introduction, *i.e.*, "We are in want of a fly wheel to regulate the motion of the machines when put to work, and prevent the crank from stopping by reaching the dead points." The machinery of the Government help, modification of the law, &c., &c., which are applied to raise our prosperity will certainly fail to do good until *our own capital and energy* is brought into motion. In other words, if without securing the basis and laying the foundation of all the success, which is *our own capital and energy*, it should be tried to carry on the structure, firstly, it would not go on, and secondly, if it would go to a certain stage, it would not stand long and should fall down, and be shattered into pieces.

CHAPTER V.

Encouragement of General and Technical Education.

One of the most important plans universally found to be true, "*The spread of education for the prosperity of a country*," is unanimously suggested in the case of India too—and lately greater force is given to the education of the masses. On no grounds could there be any reason to deny, that education, after being spread successfully, would give this result; but of course, there is much doubt (in the present condition of India) of its spreading successfully. Having the experience of 18 long years in this question, as I have belonged to the Department of Public Instruction from 1864 till the date I left for England (April 12. 1882), and have still the same connection with it, I had a good deal to say in respect of the Primary, Secondary, and the High education, but I am sorry to say that there is no more time at my disposal, therefore, it is left alone here.

Owing to the same reason (the scarcity of time), we could not write the last chapter so fully as we intended to—and moreover we are obliged to leave the remaining miscellaneous points which have been mentioned in the Introduction untouched.

The points are:—*Local Self Government.—Appointment of Natives to High Offices.—Migration and Emigration of the People.*—This matter would have added two more chapters to the book. If opportunity will permit, we may bring out the remaining matter in a second part, at some future time.

Now with regard to the question of this chapter—"The education" we append here a pamphlet on Primary Education* which was issued last year—and with this conclude our present work.

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* This is the Appendix No. i. of this book. Appendix No. ii. having connection with the second part of the book will appear with it if it is issued. In several places in the foregoing pages we have referred to the Appendix No. i.; and we hope, that it will give to the readers an idea of the true features of a peasant's life, and of the modes of the present income of the people, and the economical affairs of India. If the reader will read this before going into preceding parts, it will throw a better light on their contents.

Cirencester, Gloucestershire, June 10, 1884.

APPENDIX I.

Primary Education and the Circumstances of the Population in Oudh and the North Western Provinces of India.

PART I.

INTRODUCTION.—Diversity of opinions as to the best policy to be pursued—tests to arrive at the right conclusion. From the questions put by the Commission for enquiring into this matter in India, it would seem that the above tests have not been considered. Proofs:—

A. (1.) Prosperity of a country does not depend on Primary Education, but the want of education increases with the prosperity of a country. (2.) Primary Education does not give mental culture, and does not improve the faculties, but engenders the evil of making the masses discontented with their position.

B. The people in India have no use to which they can put it in their social or domestic life and habits.

*C. Whether it would be beneficial or not. The vast majority of the people in their present impoverished condition cannot possibly be educated.**

The question of the education of the masses, or as it is called Primary Education, seems so remarkably interesting throughout India, that in every quarter it has largely attracted the attention of the public in general, and specially of those who have taken some interest in the matter or are directly or indirectly concerned with it.

Through the light thrown upon the subject by the Indian press, proceedings of private debating societies, and public ideas, it is evident that there is great diversity of opinion, firstly, as to the meaning of the question,

* N.B.—"India" in this Pamphlet is represented by Oudh and the North Western Provinces.

and secondly, that while many are opposed to it some also are in favour of it. Some consider that the education of the masses may probably become such a favourite subject that it will in time deprive the higher education of nearly all the favours and privileges hitherto accorded to it; though it may not be the case all at once, yet it is certain gradually to be so. Others, however, believe that this will not be the case.

Moreover, a great many seem opposed to offering any further assistance or facilities for the education in question, beyond what it already possesses, while a few urge that a greater share of consideration and aid must be given to it, even though it be at the expense of the higher education.

According to public opinion, the policy of the power by means of which the machinery, either of High or Primary Education is kept in motion in India, seems or is supposed to be inclined to give more force in favour of the latter (Primary Education); if this should be the case there is every reason to anticipate that this side of the question at any rate will have more weight, even if the weight of the opinion of the whole public be on the other side.

In short, it seems just the time to consider and decide whether the education of the masses is a proposition which deserves any particularly special favour or not.

By applying the following tests and analyzing the matter carefully, we believe we can arrive at the right conclusion.

A. *In the case of the masses of India* (specially of those parts where the roots of high education have not gone deep enough as yet, or have not obtained a firm footing, such as Oudh and the North Western Provinces): (1) whether Primary Education is desirable for this reason, that it is expected to produce a force and power which would have the tendency of increasing the material welfare of the masses, and diminish their poverty, (2) or because, at any rate, it may be expected to improve their intellectual, moral, and social condition.

B. Supposing this not to be the case—whether in their present condition it can be of any use to them; have they any need of it? Does any of their business depend upon it?

C. Supposing that it is a force which would raise their material welfare, and even supposing that they are already in need of it, and after obtaining it would find opportunities of putting it to a good use; whether they have means or are prepared to receive and enjoy its blessings or not.

By looking at the set of questions with regard to Primary Education put by the Commission which at present is very busily engaged in making enquiries about the subject, it seems rather astonishing that they have not directly touched the foregoing points, which seem to be really very important, and the direct way to arrive at the right conclusion.

From this we can suppose that they entered upon the enquiries in the belief that as a rule in every part of India also Primary Education will do good; that the people are in need of and are prepared to receive it. If so, very probably they were led to these conclusions by the experience of the subject in England; and whatever plan of enquiry they have adopted has been copied from the example and style of the work prevailing in this wealthy, civilized, and refined country.

This supposition seems quite natural, when we see the nature of the

work in England, and read its Administration Report, the Code, and then look at the set of questions of the Indian Commission, because from every question the shadow of the nature of Primary Education in England is clearly seen, and every question seems to be framed after the pattern of the work as carried on here. But it should not be forgotten that there is a vast difference between the circumstances and wants of the people of England and of India. Here in England no doubt every individual is in want of education, and has several uses for it. Therefore it is not extraordinary if here enquiries were to be made, such as, how the means of diffusing knowledge should be promoted among the people. Here also there is no need of making enquiries whether the people have any use for it, or are able to receive it, &c. But the masses in many parts, rather it should be said in the whole of India as a rule, at present have no use for education at all, and have no means to receive it. So the points of the enquiries for that country, above all, ought to have been such as the following: how the want and use of education should be created among the masses; how would they find means to receive it.

As the above recommended points, perhaps, have not been considered worth taking notice of or unnecessary, therefore mostly or nearly all the evidence given upon the subject remained within the limits of the scope of the questions, viz.: the features of the present education in all parts of India have been clearly shown, and the suggestions for increasing its sphere and improving the plans of future administration and management have invariably been made.

We find, however, in some instances, that some persons acquainted with the inner life of the Indian masses over-stepped the limits of the questions and attempted to show that it is quite premature to make further allowances or spend greater care upon Primary Education. But their remarks were not only considered irrevalent to question by the proper authorities, but a portion of the press and of public opinion also censured them for saying a thing which had not been asked.

On the whole it can now be fairly understood that in deciding the question of Primary Education, the points that how far such education would be of use to the people, in what way it can do good for them, and in case of its being promoted whether there would be found enough people prepared to enjoy its benefit or not, have been excluded and considered of no consequence. It is therefore evident that there is no chance of the conclusion being arrived at, that the policy of the education in view would be quite useless and simply a loss without any result, or in other words, that mass education deserves no additional help beyond what it has already at present.

My long experience from having served the Government of India in this line for 18 years as Deputy Inspector of Primary Education has made me fully acquainted with the fact that the present allowance provided for the mass education in the Province where I served (Oudh and North West Province) is quite enough if not too much, and that any further trouble taken about the matter would be of no use. I therefore feel it my duty to prove this fact by applying the above-mentioned tests to the case, and giving an account of my experience, which I beg to state as follows:—

A. Whether Primary Education for the reason that it may be expected to diminish the poverty of the masses, or at least would elevate or refine their minds, &c., is necessary ?

This question, viz. : whether education has any power of increasing the material wealth of the people is very complicated. Some consider that education is sure to bring wealth to the doors of the masses, which is of course the basis of every improvement, while others on the contrary believe that it is the increase of the material wealth of the country that alone creates the want of education.

By carefully examining both sides of the question it can be clearly understood, that, though it cannot be denied that education in many respects has the tendency of increasing material improvements, yet it is not the *Primary*, but it is the *Higher Education* that does so. On the other hand the prosperity, viz. : the increase of business does create the want of education.

From our own experience and trial of mass education made in India, and from the examples taken from the countries of Europe, there is no longer any doubt of this fact.

In Oudh, management of the mass education has been in existence for about 20 years, having been properly organized in 1866, and in the North Western Provinces, we have experience of more than 40 years. From the departmental reports and statistics, it is evident that nothing was wanting to have ensured its full success. By the influence of the departmental and local official, as well as by private agencies, the sons of every class and grade of people are taught up to the fixed standard.

The rules of administration and management, as guided by experience and necessities, were from time to time modified and changed, and the standard of education altered more than two or three times. In every respect, the success of the work and the department appears complete, but what good it has done and how far it has been of use to the people at large cannot be ascertained by any but eye-witnesses. That is what those who not only carry on the work, but constantly watch the movements of the masses for whom the work is done, know perfectly well.

This however is perfectly plain to every one, viz. : that those who fortunately can raise themselves a little above their fellows among the masses, by receiving any education, thenceforth invariably despise and think themselves too good for any menial work. This is not a result peculiar to India, but we see the same thing and hear the same compliments in every quarter of this country (England), which is the centre of civilization and learning in the whole world. But the enormous difference is, that here in England, anyone, who after receiving some education dislikes menial work, has a chance of exchanging it for something better. For instance, one who does not like blacking boots in the street after learning in a school, has a hundred chances of doing something better. For example, it is possible that he may employ himself in distributing a shoemaker's notices in the streets, carry his bills to his customers, become an apprentice in some branch of shoemaking, by proving himself qualified may become a clerk in a shoemaker's office, or a foreman in a shoemaker's shop. If by any of the above means he can make a

little fortune, he has many openings for setting up in the business for himself. Should his business fail to pay here, he can export his merchandise to the colonies; and there it will be nothing unusual, if by steady perseverance and economy he at last becomes the head of a large bootmaking firm. But in the part of India I am speaking of, where unfortunately three-fourths or one-half of the people cannot afford even a shilling for purchasing a home-made clumsy pair of shoes, and are obliged to walk barefooted all their lives, the business of shoemaking is, first, not conducted on a large scale and not very profitable, and secondly, is not divided into so many branches as in England. So if a shoemender's son after spending his five years in a school, hates the work of mending shoes, and does not remain content with twopence a day at which average the work had been paying his father, or by remaining at school has lost the knack of being expert at the work, what other chance has he got in the world for obtaining hood to better his position, or to make any use of his knowledge?

Putting the example of shoemaking aside, is there any other business, trade, or manufacture, which would pay him and require the use of his learning.

Is the smattering of education which he has received, enough to make him such a philosopher, that he will remain content with his fortune, and not grumble or be sorry that his trouble of obtaining education pays him nothing? Or has education made him so enterprising that he will ever think of leaving his home and going to America in search of his fortune? Moreover, for his enterprise, where are the means? What would he subsist upon if he were to leave the hut of his parent even for 24 hours?

How the poor father on his wages of 2d. a day could afford the education of the boy is another question. (*Vide* the remark under test C.)

Of course he sees one way before him of shining in the world, that is the Government Service. But it is impossible that this line can give room to every individual who has received some education.

In short, the poor lad, after learning in the school, instead of being a useful member of his class, becomes a burden on his parents, who consider the education of their son not a blessing, but rather a calamity brought upon him by themselves.

By reading these pages it will be clearly understood that the above example is more or less applicable to every class of the masses in India which form at least 60 per cent. of the population. After receiving Primary education the (kashtkars) petty cultivators and labourers disdain to carry the plough on their shoulders, the weavers to use their looms, the tailors their scissors, &c., &c.

They all desire to rise a step higher in the world, but see no means of doing so.

This result of the experiment of Primary Education in our country is plainly seen in every corner; but any single instance in which education has produced some means of increasing their prosperity (besides inducing and making them fit to enter into some service), or has created or opened any branch of business or employment for them cannot be searched out.

There is no doubt, therefore, that a poor education (primary) can do no good to the people in general. But of course the increase of capital promotes the increase of the business, and it is the *business* that creates the want of education. Or, in other words, the prosperity of the people does not at all depend upon *Primary Education;* but the want of education is felt in proportion to the material prosperity of a country and the growth of business.

We find very good examples to prove this when we look at the state of business and at Primary Education in England.

From the education report of 1881 we learn that a sum of £20,000 was granted by the Government for primary education for the first time in 1832, and in 1839 the first Council or Committee of Education was constituted, and the grant was increased by £10,000. In 1870 the Elementary Education Act was passed. In that year (1870) the population of England and Wales was 22,090,163,* and the number of schools 8281; in 1881 the population was (estimated to be) 26,055,406, and the number of schools 18,159. In the examinations 1,434,766 and 3,372,990 were present respectively in the years 1870 and 1881. The average number of the children of school-going age, according to the census report is 23 per cent. Although the average daily attendance during the last 11 years has arisen from 5 to 10 per cent., yet there are still the names of 1,000,000 children to be added to the school registers.

From the foregoing figures it can be seen (1) that about 11 years ago the progress of Primary Education was about half of that which it is at present, (2) still it has not yet reached to its perfection; (3) the Government has paid increasing attention to it during the past 50 years. But of course the improvement and increase of the trade and prosperity of the country date long, long before. Hence it is evident that the increase of material wealth of a country does not at all depend upon the education in question.

But we learn on the other hand, from what we see in England, that when the amount of business became so large that manual labour failed to supply its wants, and therefore wind, water, and steam powers were applied in place thereof, and, as of course these powers cannot be utilized unless they are guided by some reasoning powers, therefore the workmen, *i.e.*., the people from the masses that were liberated from manual labour, were mostly employed to take that part of the business; and for such work some education is necessary. Hence, the want of education began to be felt in England as the use for it arose.

In proportion to the multiplication of capital as the labour, business, and prosperity of the country increase, so along therewith, and in the same proportion, does the want of education, and its uses, increase likewise.

I think that it has now been clearly proved (first, by our own experience, secondly by the examples of this country), that primary education has nothing to do with the welfare of a country without much business (manufacture, trade, or commerce), any attempt, therefore, in India, to grant further facilities for primary education, in the hope of elevating the material condition of the masses, would surely prove a failure.

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* Report of general Registrar of Census.

That Primary Education is required on the ground that mental culture would improve the moral, intellectual, and social condition of the masses, is also an argument without any firm basis; because it requires no proof to show that what we call primary education, the standard of which in India is, Arithmetic up to Simple and Double, Rule of Three; writing from dictation; composing an easy letter in their vernacular; reading a primer or one or two small readers or story-books; outlines of the local history and geography, is not enough to make an illiterate lad a good scholar. Moreover, since, after leaving school, he has no chance of remembering even the little he has learnt, we cannot rely upon education to answer the purpose aimed at. There is no employment in his home to improve his learning, or of knowing how the world is going on. He has no newspapers to read, no societies or libraries to attend, and these things cannot be provided by any other means than a local contribution towards such objects, which the country is not in an advanced state enough at present to permit of.

His teachers being no better a scholar than himself, as he has learnt little more than the prescribed course to qualify himself to be a teacher, for which he gets on an average, 7 Rs. a month, cannot be expected to teach him more than the words written in the books, or to develop his reasoning faculties, or to impart to him any large fund of information, or any breadth of view or ideas. Attempting to gain the object by raising the standard would, we fear, only make the matter worse, because the parties concerned, having already many difficulties to overcome in attaining to the present standard, therefore if the standard were raised, it would then be quite out of reach even of the few who can pass it at present.

From all that has now been said, we are confident no impartial person who has read these pages, will any longer maintain that further aid should be extended to primary education in India at the expense of high education, but on the contrary, the higher education deserves the fullest care and attention, even though it may be at the expense of the former, because it is the secret of the future welfare of India; it produces not only the intellectual, moral, and social improvements, but also makes the people eager and anxious in looking and searching for some means of more fully enjoying the blessings of the liberty and the peace which they have under the present Government. There is no doubt that the high education is the surest means of leading people to find out one day the keynote of the prosperity of the country, which is co-operation and the accumulation of capital for starting business, which will, in their turn, create the necessity and the desire for primary education. Thus it will also be a certain means of fostering and nourishing the perhaps slower but more healthy growth of the mass education with less need of aid and encouragement, without which it cannot, under present circumstances, be developed.

Let us now proceed to consider the second point.

B. Would the Primary Education, nevertheless, be of any use to the people in their daily private or domestic life?

The Report of the Famine Commission, the Gazetteers of the Provinces, the Census Records and Reports, the remarks of John C. Nesfield, Esq.,

Inspector of Schools, Oudh, and a hundred other evidences prove the fact that India at present has but one single source of livelihood and employment for the masses, which is cultivation. This point hardly needs any other explanation, since it is clear that for tilling land, on which 90 per cent. of the population directly or indirectly altogether depend, and about 60 per cent. of that number only earn sufficient thereby to live from hand to mouth, that is at most about 2d. a day per head, there can be expected no room for the want of learning. Agricultural work, which mostly depends, or at any rate is in greater need of practical than of theoretical knowledge (specially in case of India, where the people learn it but practically), does not require any book-learning. Further, business is conducted on so very small a scale, that the average area of our farms (under the management of the petty kashtkars) is not more than two or three acres; the asamis dig the land, produce some grain, consume as large a portion of it as they can lay their hands on, under the watchful eyes of the landlords and the Mahajans, whose debtors they invariably are, and the rest they give most in kind, but in some districts partly in kind to the Mahajan, and in cash to the Zimindars.

This sort of work, it is evident, hardly requires any education. Different branches of work are not, as in rich and civilized countries, distributed among various classes of the community, as there is no opportunity or need for it. So every individual among the masses not only ploughs, manures, sows, irrigates, reaps, and thrashes his own field himself, and not only grinds his corn, draws his water, makes his bread, and brings the fuel to light his fire, but also, builds the mud walls of his hut, and makes the thatching, &c., himself. Nearly all the branches of a man's business and all the needs of his simple life are met and provided for by himself and family. The very narrow area of the business, and the very simple mode of life of the masses, which is due to the want of capital, hardly needs the advantages of joint or divided labour. The area of the circle of their business and the life of the people, extend not far from the centre of their homes and very seldom or never beyond the neighbouring villages and the local markets. Hence they have no communication on a larger scale with the outer world. If there is any need of the services of a carpenter or a blacksmith to make or repair the plough, or of a tailor, shoe-mender, or a barber, they are paid by a tithe system on each field at every harvest. Those who employ labourers to do any agricultural or other work, settle the account by giving four pounds of coarse grain to each labourer at sunset. In case even of any cash being paid, the account is settled daily. And this is the whole routine of their business, and this does not of course require any correspondence or book-keeping, especially on the part of those who are paid.

Next, leaving the daily business of any individual among the masses, if we enquire whether education would be of any use to his religious, intellectual, or social requirements, we find that he has scarcely opportunity, leisure, or means to think of anything else but working for his night's meal. His religion only consists in going two or three times in a year to bathe in the Ganges, and in offering two or three times in a year provision enough for a meal to a Brahmin, or once

a year a kid to the goddess of the place. In the case of a Mahommedan, in saying his prayers at home or sometimes in a mosque. All this requires no education.

A peasant's whole world is his own and the neighbouring villages. and the market whither he has often to go. All his relations are in one hut and his friends in the next. He has but little news to communicate, and scarcely anything to enquire about. He has nothing to export, that he should wish to know the prices of a distant market; he has no import that he should require to read an invoice.

To read for the sake of amusement, or to learn the news of the world, cannot at all be expected of him after fourteen or sixteen hours hard work under a burning sun. His only amusement and luxury is a meal and a good sleep. Moreover, there are no materials within his reach to enable him to secure that pleasure, and he is unable to contribute towards providing them.

There is one instance however, to be mentioned in which education would seem to be of some use to him, viz. : for signing the printed form of the lease, for adding up the amount paid by instalments on account of the rent of his land to the Patwari, the village clerk, and in case of his being compelled to go to the court to obtain justice. But he can manage all these things, also, without learning. First the lease is very seldom changed, and secondly he will never attempt afterwards to repudiate what he has once agreed upon. His rent seldom exceeds 20 or 30 Rs., and he has to pay it in fixed instalments; but he can count above that, though in many cases it is by means of his fingers or counters, and he never makes a mistake in the debtor and creditor sides; while in case of requiring justice he falls into the hands of a law-agent, just as a well-educated man is obliged to.

By the foregoing remarks it is not meant that education is a bad thing, that poor men have no claim for it, or that we are prejudiced against education. No one can deny, whether they have any use for it or not, that the masses, being educated, would be a hundred times better than their remaining illiterate. But the question is, how are they to receive education. And this will be proved by the following test: C.

After summing up the foregoing remarks, we come to the couclusion that Primary Education has no power to improve the state of the masses who have no use for it, and that it does not deserve any more aid if it is to be granted at the expense of high education. At the same time we are not prejudiced against it.

There still remains, however, a yet more important question to be answered.

C. Setting aside all discussion as to the results, practical use, or necessity, and simply considering it to be a bounden duty of the Government to do all it can to ameliorate the condition of the masses of our population, still, how they are to receive education is a question, to answer which I must here append the memorandum,* which, in 1875, I had forwarded to John C. Nesfield, Esq., then Director of Public

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* Lately revised.

Instruction in Oudh. It gives a full and detailed account of the inner life, income, and work of the masses.

It shows that there are among the boys of the school-going age, only six in every thousand who are in want of education, and only two per cent. who can be expected to afford it, and the remaining ninety-eight per cent. are quite incapable of receiving education in the present state of the country.

By reading these pages nothing further is necessary to prove that the means of Primary Education which already exist, are quite sufficient for present requirements.

Although the appended Memorandum gives a detailed account of only the people of one district in Oudh (Pratab Garh), yet its contents are quite applicable to every district in Oudh, and of the North Western Provinces. It would not be unjust to take its remarks as an illustration of the case of the masses throughout that portion of India.

PART II.

MEMORANDUM.

From

S. Mohammad Hossain,
Deputy Inspector of Schools,
Pratab Garh (Oudh).

To

John C. Nesfield, Esq.,
Director of Public Instruction,
Oudh.

Lucknow, 27th March, 1875.

1.—Abstract from the Report of 1872. 2.—Percentage of the boys of school-going age who have a desire for Education, and are supposed to be able to afford it, and of those who are incapable of receiving Education. 3.—Statement B., showing census of thirty Villages according to high, middle, and low castes. 4.—Agriculturists and non-agriculturists. 5.—Description of the circumstances and work and income of the masses, such as petty kashtkars, labourers, petty shopkeepers, artizans, &c.

Sir,—With reference to your favour, No. 2224, of the 14th November last, I have the honor to quote the portion from my Annual Report for the year 1871-72, which states the reasons for the short existence of the village schools.

The partiality of the natives for the private maktabs, and their feelings towards the Government Schools I have brought to your notice heretofore, and their reasons were also explained, therefore I need not repeat what I then reported to you, but beg to state the circumstances of the village

population of this country, so as to show what portion of the community is unable to share the benefits of our department, or of the country maktabs; also whether it is possible to induce them to share these advantages, or be left alone in their present state. But before giving the explanation of the circumstances of the villagers, agreeably to your order, I beg to copy the following from my above-mentioned Report (Paragraph 2.)

"Considering the unfavourableness of the localities of the schools hardly anything otherwise could be expected. Some of the hopeless schools I am very glad to say have recovered, and are at present going on pretty fairly. Almost all the villages in this district being very small and extremely poor, I, of course, am unable to show a very high percentage of scholars to the average number of schools, and also cannot hope that the schools here will permanently flourish, so that in future I shall have no occasion of removing them from one place to another. My five years' experience has taught me that the village schools have but a very short existence, the reason of which in my opinion is, that in large villages, which are said to be populated by Brahmins and Chatteis (respectable people), there are only twenty-five per cent. of men who are supposed to send their children to school, and have enough means to do so, the others being petty kashtkars, asamis, or labourers, are extremely poor, and never think of education; and in no place in Oudh or in the North Western Provinces, do I believe our institutions get boys from these classes."

"Of the above-mentioned portion, viz.: twenty-five per cent. among the respectable people (who are either in need of education, or might be expected to appreciate it from our showing them the advantages) there are only thirty per cent. who have a self-desire to get their boys educated, and sixty per cent. who are neither its friends or its enemies. These men leave the matter of obtaining education to the wishes of their boys; if the child goes to school they would not prevent him, but if he leaves it they would not force him to go. And about ten per cent. are quite against the schools; these men strictly compel their boys to leave school and do their own work. Now, according to this calculation, a village having 1000 inhabitants has only 225 persons who are supposed to support our schools, but of course these 225 souls comprise males and females, and cannot all have boys of school-going age.* So in a village, having 1000 inhabitants, we can only get six per cent. of people who are in want of education, and altogether two per cent. who can be expected to afford it. In short, when a school is first established in such a village, at its commencement about thirty boys are admitted, and after two or three years, some of them finish their course of study, others growing tired of it leave the school, and the names of some lazy and absent boys are struck off; when the number is thus reduced, we try our best to get boys from the neighbouring poorwas (villages), and by this means push the school on further for the same period; at last, when the fresh supply becomes exhausted, we are obliged to look out for another place."

"Further, I beg to add, that under a good, steady, and painstaking

* According to the Census Report, the percentage of the boys of school-going age is eight.

teacher, a school will possibly go on for seven or eight years; this may certainly not be the case with all schools under every teacher."

In 1866, on my being appointed Deputy Inspector in Roy Barely District, I found it necessary to make acquaintance with the circumstances of the peasants, because my efforts to bring the children of all classes to school had proved quite unsuccessful. When, in 1870, I was sent to this district, which is mostly populated by agriculturists, and consequently, in respect of education, has always been behind-hand, I carefully made enquiries, in the first instance, into the circumstances of the villagers, and their different positions and means of livelihood. The above quoted remark was the result of my own estimation, but lately I tried to get fuller information, and in order to do so obtained the census records of thirty villages (ten from each tepsil and three from each pargana of large, intermediate, and small population), from the settlement and the Deputy Commissioner's Offices.

The Tabular Statements A and the abstract of the same B. I beg to submit herewith for your information.* From these statements also I found out that my previous rough calculations were nearly correct, because the number of the people who can afford education for their boys now comes to twenty-eight per cent., whereas in the first Report I had calculated twenty-five. The difference is, firstly, not very great; and secondly, in the enclosed statistics, nearly all the places of urban populations, such as Pratab Garh, Katra, Tionga, Patti Khas, Manackpur or Poorai, Ali, Nagi, and Peryawan, have been calculated; if the average of the pupulation of the whole district were taken, I am sure the number would be less.†

The statement B, which contains the classification of the people according to caste, does not necessarily show the position of individuals according to their pecuniary means, therefore, from this classification, the present pecuniary circumstances of the people and their income can hardly be understood. For instance, all the higher castes of Hindoos and Mohamedans, such as Brahmins and Chhetris, Syeds, Moguls, &c., although they have been put down in the highest division, which makes the percentage twenty-eight, yet nearly one-fifth or one quarter of them are sure to be common street beggars, petty kashtkars, or labourers. The same is the case with the middle divisions (twelve per cent. of the told population).

Besides the vaisha castes or tradesmen of all grades, all the artizans and industrial people are counted in the middle class, but nearly one half, according to their pecuniary means, are also no doubt worse off than common kashtkars and labourers, such, for example, as most of the komhars (potters), behna (corders), and johalak (weavers). Manhyar and tarkehar, as a rule, are as poor as the people of the lower class, they also work as labourers.

On the other hand, it is not uncommon to meet with a few persons in the middle and lower divisions who are rich mahajans (money and grain lenders), and land proprietors by the right of purchase.

* Statement No. A in vernacular, had been sent in original to the above-named officer.

† All these remarks are applicable to all the districts in the Province.

It was impossible for me to make the classification according to the pecuniary means of the population, because from the census records no such distinction can be traced, but there is every reason to believe that this deficiency in the appended statement will not materially injure the illustration which I am going to make, because in the other case, by finding out the correct number of the rich and the poor on the whole, the average of the lower class will increase.

To give an accurate statement of the circumstances of the people, I consider it more advisable to make two major divisions of the population, A. Agriculturists, which are at least eighty per cent., and B. Non-agriculturists, such as tradesmen, shopkeepers, artisans, &c., twenty per cent. The account of these classes, more particularly of what are called the "masses," of their work, labour, and income, I beg to state to be as follows :—

A. Agriculturists.—This class consists of men of three positions, of which *Zimindars* or *Pattidars*, land proprietors or sub-proprietors form five per cent. *Kashtkars*, farmers or cultivators, about fifteen per cent. *Asamis*, tenants, and *Ryots*, labourers, 60 per cent.*

Leaving the detail of the circumstances of the Zimindars and Pattidars, of whom there are, of course, only a few in the villages, and who all their lives either are heavily in debt, which is generally the case, or in easy circumstances, but are considered men of position, and many of them are great men in their villages; and also putting aside the description of the Pattidars, and also of the Kashtkars,† who are either the relatives of the Zimindars, as well as other well-to-do men of high castes, such as Brahmins and Chattris, and some Mohamedans, and of many of those men who, besides the agricultural business, lend money or grain to the Asamis and live comfortably, I beg to give a full account of the latter (3rd) class, Asamis and Ryot, of which the villages are greatly populated, and who cannot afford education for their children.

The Asamis, or petty tenants, are men of all castes, who take a lease or contract for a small portion of land from either the Zimindars or the Kashtkars, but whose circumstances, work, and income are on the whole most pitiable.

Under this head come specially the people of the following castes: Ahir, Kunbi or Kurbi, Morai, Gararya, Chamar, and Pasi, who all belong to Sudra, or the third division of the castes, and the men of all other castes and profession, who, having no means of doing their own work, or not understanding the work, in addition to their own profession, which is

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* There is really no differences (except in name) in the state of the circumstances of the *Asami*, and the *Ryot*, their occupations are mixed together. All the tenants work as labourers also, or we should say, the greater part of the labourers are tenants, hence they are classed together.

Our Primary Schools are attended by the sons of the 1st and 2nd classes. which are eight per cent. of their number or two per cent. of the told population, and nominally by the sons of the third division.

† The word Kashtkar signifies a cultivator, but here I mean the farmer, who has got some right on the land possessed by himself, but pays rent to the Zimindars, or has got a lease from the Zimindar for some bighas of land, and has got some Sub-Asamis.

STATEMENT, SHOWING THE POPULATION OF

PRO

No.	NAME OF VILLAGE	Total Number of Population	(a) High-class People						
			Brahmin	Khatri	Kaisth (Hindoo, and Mohammadan)	Syed	Shaikh and Pathan	Moghul	
1	Pratab garh	3038	72	2	41	101	376	35	
2	Katra M. G.	1323	91	97	36	...	...	...	
3	Tewnga... ...	681	76	106	171	...	...	...	
4	Sandowa, Chindka ...	1571	308	226	11	...	...	...	
5	Bhupatpoor	147	2	...	44	...	...	...	
6	Gobri	408	58	...	...	...	...	...	
7	Patti	1391	125	28	51	11	137	7	
8	Madhpoor	2287	151	79	102	...	137	...	
9	Dahppoor	947	99	63	21	...	62	...	
10	Sirsaie Kham	469	37	12	...	...	4	...	
11	Damoopur	417	24	62	...	...	76	..	
12	Daoodpur	74	8	10	...	...	...	...	
13	Semra Dih	107	16	...	...	...	...	...	
14	Bariepoor	63	18	...	...	...	.	...	
15	Khanowli	378	167	...	...	...	...	...	
16	Dharee	251	...	7	...	...	2	...	
17	Badhri	661	38	52	2	7	...	...	
18	Bhawanpoor	1129	321	...	...	...	4	...	
19	Amawawan	1829	502	106	...	...	2	...	
20	Bijowra...	610	83	...	...	...	...	...	
21	Bhojpoor	1170	266	134	22	...	11	...	
22	Manickpoor	1504	49	...	47	124	202	4	
23	Lath Bara	644	75	16	...	5	...	...	
24	Pawansee	744	223	82	5	...	...	...	
25	Peryawan	1470	183	14	38	...	54	...	
26	Baghwant	284	23	40	...	5	...	...	
27	Kundra Madhpur ...	862	122	174	24	...	...	...	
28	Adharpoor	843	32	232	...	...	...	...	
29	Bikrampoor	1331	278	16	3	...	...	...	
30	Berimpoor	225	...	...	...	...	...	...	
							Grand Total...		76

* Detail of (*b*) Class (Hindoos).—Goldsmith, Blacksmith, Carpenter, Teli, Baniya, Bhujuas, Halwai, Kalwar, Thathera, and all other Vaisha classes. (Mussulmen).—Jolaha, Behna, Kabarya, Ghosi, and all other Mohammedans not counted in the first division.

N.B.—Percentage of (*a*) Class, 28·2; (*b*) Class, 11·7; (*c*) Class 60·1.

Y VILLAGES OF THE PRATAB GARH DISTRICT,

OUDH.

(b) Middle-class People			Grand Total of (a) and (b) Column	† Total of Low-class People	REMARKS
Artizans, Shopkeepers, &c.	Mohammedans of all other Castes	TOTAL			
316	69	385	1012	2026	
226	..	226	581	742	
12	...	12	365	316	
103	2	105	680	891	
22	...	22	68	79	
20	...	20	78	330	
181	178	359	710	854	
373	144	517	986	940	
212	...	212	457	490	
10	...	10	63	346	
...	...	...	162	255	
5	...	5	23	51	
...	...	...	16	91	
...	..	...	18	45	
10	...	10	177	201	
2	...	2	11	24	
70	...	70	169	492	
79	222	301	626	503	
203	...	203	813	1016	
9	...	9	91	519	
206	4	210	543	527	
108	2	110	536	968	
59	...	59	155	491	
29	...	29	339	405	
101	245	346	635	835	
12	...	12	80	204	
37	...	37	357	505	
46	...	46	310	533	
62	4	66	363	1168	
...	...	...	...	225	
...	...	3203	...	16396	

† Detail of (c) Class.—1, Ahir; 2, Gararya; 3, Kurmis; 4, Morais; 5, Beildars; 6, Chamars; 7, Pasis; 8, Khatiks; 9, Dharkar; 10, Bhungi; 11, Kahar; 12, Bari; 13, Nai; 14, Mali; 15, Dhobi; 16, Lonya; 17. Kewat; 18, Gurya; 19, Nut; 20, Musahra, Berya, Kanjar, Baidh, and Kingira.

less profitable, also cultivate a piece of land, and may be called Asamis.

Nearly half of the Mohamedans called Shaikh and Pathan, in villages, are Asamis, consequently, in the statement B, only half of their numbers have been entered under the first head, amongst those who can send their boys to school, and the other half under the last or third head, among the lower class who cannot afford education for their boys.

The Asamis work day and night in their fields. Their women, except ploughing, digging the fields, &c.,* do all other work with them. Their children, when they become above five or six years old, look after the cattle or bring dry cow dung or chips by picking them up from outside to be used for fuel. Notwithstanding this hard and joint labour, I believe I am right in saying that the poor men rarely have a full meal at night or once in 24 hours. Though their fields produce everything, yet they cannot satisfy their hunger except with the coarsest and cheapest grain of the season. And when among the Asamis there is a man of high caste, a Brahmin, Chathri, or Kaith, his condition is still worse, because he is obliged by custom to employ labourers for ploughing, as he cannot touch it in the field, and the female of these castes will not work like low caste people.

Whatever extraordinary charges, such, for instance, as any tax imposed by the Government, marriage expenses of the children, buying elephants and so forth that the Zimindars have to meet, they make their Asamis contribute towards it. Every year the rent is raised more or less; I am told that the rent of lands, which is Nawabi time was only one rupee, is now from four to eight rupees, and still a single year does not pass by without the Zimindars adding something to the rents.

It is of course true, that after the Nawabi times the land becomes much more valuable, because in those times agriculture was considered very degrading, yet even then this was a common saying, "Uttam kheti maddam baipar" *(Agriculture is ennobling, but trade degrading)*, the men, afraid of the ill-treatment of the landlords, and having many sources for obtaining other sorts of employment did not care at all for cultivation. In every village some land remained uncultivated, and the Asamis were forced to take leases. But now nearly all the people, having lost so many other sources of employment, and the fear of Nawabi times, have turned cultivators, and this has very greatly increased the value of land.

As soon as the crop of their field is ready and thrashed, the Zimindar sends his man for his demands, and in delay the poor Asami has to pay Dastak, *i.e.*: one or two annas per day to the peon of the Zimindar.

The poor man, after settling all his debts, very seldom takes anything else from the product of his field at home except the Bhoosa grass, or a little quantity of the grain left after paying the demands.

Thus, having spent all the fruits of his labour, he quietly makes preparation for the next crop, and having spent the little stock of grain that he had taken home, in a few days he again becomes obliged to borrow grain to support his family. Whatever he earns either goes to

* Which they are prohibited to do by custom, as well as other work of the same sort.

the demands of the Zimindar or to settle the debt, and the poor man derives no other benefit from his own and his whole family's labour than the dry bread of a coarse grain once in twenty-four hours. In dry weather, *i.e.:* when there is no crop ready, especially about May and June of a hard season, the women of the Asamis of the lowest castes, or mere labourers, such as Pasis, Chamars, Kewats, and Lonyas, &c., by gathering the seeds of Semain and Chakeri, kinds of grass which grow in Usar on uncultivated land, and their men by digging the holes of the ants and rats and taking out the grain stored by them thus satisfy their hunger. Early in rainy seasons, they subsist on the leaves of Chakound (a kind of wild herb) boiled in water. At the time of Mahowa and Am, the poor Asamis of all castes, and labourers, &c., eat nothing except the fruit alone, or boiled with a very little quantity of grain.

Whether the crop may be good or bad, the Zimindar would not deduct anything from his demand, because he has to pay the revenue. Sometimes they are obliged (though against the law) to sell even their agricultural articles to pay up the rent, and thereby next year the poor men fall into the deepest distress.

With the exception of ordinary agricultural labour and permanent daily work for all other extraordinary labour, the Zimindar would pay nothing or one quarter, or at most one half of the usual wages to the labourers and workmen living in his villages, he would even pay half of the actual price for the things he would buy on extraordinary occasions from his Asamis.

These privileges are due to the landlords from his Asamis in return for his having his house on his ground, for his cattle grazing, and taking mud, water, fuel, grass, &c., gratis.

Besides, the Zimindars who have to pay the Government revenue, and manage to live according to their position on the rents paid them by the Asamis, and therefore cannot afford to omit taking the last farthing from them, or to relax any of their dues, rights, or prerogatives ; the Mahajans, on the other hand, fleece them still more closely.

However, the Mahajans and their connection with the Asamis in one respect seems to be very important, because the grain which they keep on lending to the Asamis would be called the circulating capital of the country. This (the stock of grain) is the only available means for enabling the poor men to go on with their work throughout the year.

I must add here a few words about the transaction of the Mahajans to make the explanation a little more clear.

Except in the time of harvest the Asamis have nothing at home to eat, and therefore are obliged to borrow grain for their food, as well as for seed, which is termed Khawai, Tehamai, and Besar, from the Mahajans. Five months in every year are mostly hard and bad for the Asamis, Jeth, Asar, and Sawan (from the 15th of May to the 15th of August), and Pus and Magh (from the 15th of December to the 15th of February). After passing the month of Jeth with the greatest difficulty, as soon as the rain begins in Adra Nakat, they get from their Mahajans seed for the season, which they call Besar, and also the Mahajans lend them grain for their support, in order that they may be able to go on with their

work. In Kharif time the Besar and Kawai* are taken by the Asamis at Asarh (June), and is generally returned in Aghan (November), *i.e.*, five months after; and in Rabi Kahi time the Besar is taken in Katik about the end of October, and Khawai in Pus and Magh (December and January), and repaid in Chait, viz.: the seed after five and the grain taken for food after three months.

The terms of advancing Besar and Kawai are different according to the custom of different Parganas, but the most common terms are Deorha, Sawai, and Barmola. Deorha is one-and-a-half, *i.e.*, for every seer of grain borrowed in Asarh and in Katik, one-and-a-half seers is given in Aghan and in Chait respectively, and Sawai is one-and-a-quarter, *i.e.*, for one seer of grain borrowed in Magh one-and-a-quarter seer has to be repaid in Chait, *i.e.*, : when the produce of the Asamis fields is thrashed at each harvest. But when the grain is very dear the Mahajans are not satisfied with the above terms, they then value the grain in money, for instance, if the bazaar rate is ten seers per rupee, they give ten seers to Asamis, just as they gave him a rupee, and when the next crop is reaped, and at what price on the first market day the grain is sold, say, at thirty seers per rupee (though the rate may fall again to ten seers), then, instead of taking fifteen seers for ten seers they will take thirty seers. This term is called Barmola.

In short the petty Kashtkars (Asamis) lead a very miserable life, whatever they earn by their hardest labour and the joint labour of their families, and a greater portion of it is taken by the Zimindars and the Mahajans, and a very meagre portion is left them upon which they live for a few nights during the season.

The circumstances of a great many of them are no better than a common labourer, whose income at an average is one or at most one-and-a-quarter anna per day. But the difference is that the work which the labourer does he considers it to be for others, and the hard labour which the Asami is doing is considered by him his own work, though in reality he is working for the Zimindar and the Mahajan, in return for which he lives from hand to mouth.

Many of them who, besides their agricultural business do some other work or service, and among the pure Asamis, Kachhis, and Morais, who cultivate vegetables and tobacco, live rather confortably, but the Asamis, who, besides cultivation, do some other work, if not in whole Oudh, in my district are not numerous, and the Kachhis and Morais also here are very seldom seen in easy or better condition.

Now leaving the Asamis, I will give some account of the *labouring class*. I should think it is easy to understand that when the circumstances of the cultivators are so poor in the Provinces, the state of the labouring class and the workmen must certainly be still worse. But to give a full idea I believe it would not be too much to give some account of the chief castes to which the people of the labouring class belong, and what their work and wages are. It also should be remembered that though from poverty some people of the three higher Virns, viz.: the Brahmins, Chattris, and Vaish have become labourers,

* Besar, seed grain. Khawai, grain advanced for food.

yet they are few in number, the pure labourers are only the Sudras, so they alone are spoken of here.

The rate of the wages of the labourers who work in fields, building houses, thatching, &c., is different in almost every Pargana, and for every sort of work, and it seems unnecessary to give a full account of it here, but the average rate of wages is as follows :—

For ploughing, irrigating, building, thatching houses, and doing any kind of labour from sunrise to dark, for a male adult is twenty gandas* of grain per diem, and to lads and women about fourteen gandas, but for weeding (Nerana), &c., which work is generally done by women, about ten or eleven gandas for seven hours, and for Lawag (planting Dhan) in fields, about twelve gandas for the same time. To a regular or employed ploughman, who at night also does some work for his master, and regularly works in his field or house at the time the grain of the field in which he had been working is thrashed, about one seer for every maund of the product is given, but for some kinds of work, such as digging drains to carry water into the fields, making beds in the fields, and liping houses, they would get nothing, except half a seer of grain or Mahowa for Chabena at twelve o'clock. For grazing a buffalo or cow they get one half or a quarter anna respectively per head per mensem, and they receive the same fees when the cattle are first left under their care. But in some places they take the same fees and receive ninety-six gandas of grain for every buffalo and forty-eight gandas for every cow on its being delivered of a calf, but for grazing the bullocks belonging to the same man the herdsman will get nothing except four Gandas of grain for Chabena daily, and this only in the rainy season. For grazing a he goat he would get nothing, but for each ewe and she goat fourteen gandas per annum. On festivals these shepherds get some further perquisites in the way of food. I will now proceed to give a short account of each caste in its order.

1. *Ahir (Milkman).*—The real profession of an Ahir is to keep cows, &c., and sell milk, butter, &c., but only in some villages are one or two of them to be seen following their proper business, and in prosperous circumstances. Besides this, these men often take a lease of a little bit of land on their own account, and some of them serve under Zimindars or other persons who require their services as bullock-cart drivers, for which they get from two to three rupees per mensom from their Zimindars, and three or four rupees from other persons, but generally they are labourers, and work in the fields, and earn their bread in many other ways, such as digging wells, thatching, building mud walls, selling fuel, &c. Their women and children do the same kind of work, or graze the cattle of the Zimindars and Kashtkars, for which they get about three pice monthly for every cow, and six pice for every buffalo, and in some places grain in lieu of cash.†

2. *Gararya (Shepherd).*—In all the circumstances and habits this caste resembles the foregoing one, but the richer one keeps a large

* Fourteen gandas make two pounds in this district, = one seer ; 40 seers = one maund.

† One rupee = sixteen annas or 1s. 8d. ; one anna = twelve pice, or 1¼d.

number of sheep and some goats of their own; they cut their wool twice a year and make blankets out of it for sale, and when pressed by some very urgent want sell a few goats and sheep also. The ordinary price of a goat is about one rupee, of a sheep from eight to twelve annas, and of a blanket from six annas to one-and-a-half rupees.

Every year a shepherd is to give his Zimindar two goats and two blankets gratis, but when the Zimindar wants more, he gives half of the ordinary price. The Gararya would graze the sheep and goats of the Zimindars for nothing. Another employment of the Gararya is manuring the fields of the cultivators by keeping their sheep in them at night. For making one bigha of land rich with manure they receive twelve or fifteen seers of grain. The labour of the Gararya is very hard, they remain in hot, rainy, and cold nights always out of their sheds beneath the open sky, under a small blanket. In the day time, when they take a little rest, their women and children graze the herds, but those who are not fortunate enough to possess sheep, like Ahirs seek their livelihood by means of common labour.

3. *Kurmis and Morais, or Kachhis.*—The men of these two different castes are the best agriculturists, and are generally tenants of the Zimindars and richer Kashtkars. Their women and children remain always employed in working in the fields, but the rent of the land paid by these men is generally made so high that even with their hard and skilled labour they cannot save much for themselves, consequently are very seldom seen in better circumstances than their fellow labourers, rather, many of them are in a very reduced state, and are merely labourers.

4. *Beldars.*—These men belong to the wandering tribes of India, and keep a number of asses on which they bring fuel for sale. They used to remain as pioneers with the Nawabi Paltans (regiments), and were often a great nuisance to the poor villagers, whose trees and huts' rafters they would cut down to supply the Lushkar with fuel, and when an attack was made on the Garhi of some Taloogdar, these men used to go in front in order to clear the road and break the gate of the Garhi with their axes, and so were the first to lay hands on the plunder. As their connection with their regiments is quite broken now, at present they are seen in quite a reduced state, and are only found in the towns of the head-quarters of the Nawabi army, and not in every village.

5. *Chamars.*—These men are very numerous in every village and even in poorwas (hamlets). There is scarcely a poorwa, though, containing only three or four huts, in which these men would not be found. They are considered to be born for nothing else but labour and servitude. They are employed in every kind of labour. This is the only caste, I believe, originally intended for mere labour, though by degrees men from all other castes have been reduced to the condition of labourers. Their chief work is to strip the skin off the dead cattle (the flesh of which they also use to eat), tanning the skin and making shoes and other things that are made of skin. The chamars living in the cities and towns do this work, but in villages they are mere labourers, and are in the poorest condition. They are considered bound to do by turns all sort of Begar (the work without wages, specially carrying

burdens on their heads as far as the next village* where they change them with the Chamars of the next village), for the Zimidars, Taloogdars, Government servants, Sepoys, &c. The head of them is called Dihwar through whom the Begaris in large villages could be obtained, and he decides about their turns and work. Generally they hold one or two bighas of land rent free, which the Zimindars give them as compensation for the Begar work, and they distribute its income among themselves, but this small perquisite does not now seem to be so universally granted to them. Although in many places the Chamars now have no land, yet they are never exempted from being forced to do the Begar work. Their women and children also are employed in all kinds of work as the men, except the work of Dooli bearer, which only the men do in most places.

At the birth of a child at the house of a villager of any caste, the Chamarin (wife of a Chamar) would work for twelve days as midwife, for which she gets her daily food and some remuneration, according to the means of the person requiring her services, and after twelve days, Nain, the wife of a Nai, does the same work. To give a fuller description of the Chamar and the Pasis would enlarge the Report unnecessarily; it is enough to say that they are the most unfortunate, miserable, poor, unhappy, and depressed creatures in the country.

6. *Pasis.*—These men, in respect of labour and worldly circumstance, entirely resemble the above caste, and are treated in the same way, but their principal work is keeping pig herds. They also serve as guard in the house of the Zimindars. The Pasis, as well as Bahilyas, were considered great warriors, and in Nawabi time always attended the landlords as archers. The Taloogdars armies chiefly consisted of the Pasis and Bahalyas. At present, also, the Pasis are appointed as Choukidars† in the villages. They are considered notorious thieves, and like Chamars great drunkards, and very degraded.

7. *Khatics.*—These, in many respects, resemble Pasis, but their proper profession is selling fruit, making twine, moonj strings, and selling chips, or else they labour like Chamars and Pasis.

8. *Dharkar or Bunsphor.*—These men make baskets, boxes, chairs, &c., of bamboo or cane. They are very scarce in the villages. The income of those who live in villages is very low, and their circumstances no better than Chamars and Pasis.

9. *Bhungi, Dome, or Mihtar.*—These men, also, are not very numerous, and their principle work is known to everyone, but in the villages they make Sup or Chhaj (baskets for cleaning grain from dust, which are sold for a penny each). They play on the daff, a sort of timbrel, trumpet, and flute, at wedding ceremonies, for which they get about two annas per head daily. For clearing the household refuse in large villages, which are inhabited by respectable families, they get half

* The Begaris taken by the Government servants and Sepoys are changed in every village, meeting on the way, but those that are taken by their Zimindars would remain engaged as long as their services are required, and would get their meal.

† Watchmen, and their pay varies from half to four rupees per month, according to the size of the village they have to guard.

an anna per month and a little food once a week or oftener. In some places they get two punseris* of grain for every female in the house at each harvest, and on gala occasions get some presents also. Their monthly income is about one-and-a-half rupees per head. In some places the women do midwives' work like Chamarin.

The people of the castes from numbers five to nine are considered extremely low, and religiously impure. A Hindoo would not touch them, nor will those of other castes eat or drink any food touched by them, except fruit and dry grain, and no one will eat even fruit which a Bhungi has touched.

10. *Kahar (Bearers).*—These are chiefly found in the villages in which Taloogdars or Zimindars reside. They carry Palki and Bhungi. A Zimindar will pay a Kahar two annas per day for his labour, but other villagers pay from a quarter to half an anna per every two miles, and food at night. But the Kahars cannot always get this employment, for the villagers are not rich enough to travel on every occasion in Palki.

The chief work of a Kahar in the villages is to supply the Zimindars and other rich men with water, for which their wages are half a punseri of grain per mensem for each jar of water supplied daily. They also serve as household servants in rich families. The women also work in the houses of rich people, for which a quantity of grain is given them at each harvest, which is equivalent to from two annas to one rupee monthly, but the Kahas, male or female, that live in the house as servants, get food in addition once in twenty-four hours. Their boys do the same sort of work when about six or seven years of age. Another part of their occupation is planting singhra (water nut) in ponds, and fishing, for which they pay rent to the Zimindars.

11. *Bari, or Torch Bearers.*—These are found in small villages that are well populated by the rich people. They, like Kahars, do all sorts of household work, and the women especially in this district, go out as domestic servants. But their particular work is to carry torches at night. They also make Dounas and Puttris (cups and plates made of the leaves of trees) for serving food on the occasion of any large or festive gatherings. One hundred Puttris cost half an anna, but the Zimindars will pay nothing for them. Their wages as domestic servants are the same as the Kahars.

12. *Nai (Barbers).*—Besides their particular profession, the Nais also wait upon the Zimindars upon extraordinary occasions, especially at marriage ceremonies, when their services as intermediators between the contracting parties are invariably employed. They are also appointed by their customers to wait upon their guests who have brought no servant with them, to bring water for them and otherwise attend upon them. The Nais are entrusted with letters and presents from respectable people to their relations and friends, as well as with invitations.

From their customers they receive a small quantity of grain at each harvest, and from respectable men food when they go out for their work, and very liberal and handsome remarks at the marriages of their children. For cutting a boy's hair they get nothing until he is grown

* Nearly two seers make one punseri.

up and married, but for a married man four punseris of grain per annum. The women, as stated before, go out as midwives. On an average their income is not more than that of the Kahars.

Mussalman Nais also do the same kinds of work as the Hindoos, and live specially in the villages mostly populated by Mohammedans. The women and children also attend upon Zanana as household servants.

The three last-named castes *(Kahar, Bari,* and *Nai)* are those from which household servants, male and female, are principally drawn.

13. *Mali (Gardeners).*—These men are very scarce in the villages. Their proper work may be learnt from their name. But the poor villagers have not enough means to employ them, they are very badly off, and support themselves by receiving offerings presented to the goddess Mata, especially when small-pox is raging, or by supplying flowers every morning to the wealthier villagers who require them for offerings in their temples, also at nuptial ceremonies their services are required. When a man plants an orchard he leaves it to the care of the Mali until it yields fruit. The Mali takes care of it and supports himself by sowing some grain in the ground.

On the whole the income of the Malis is very poor, so that many of them have become labourers.

14. *Dhohi (Washermen).*—These men do their usual work, but do not generally receive wages in cash, and are paid in kind at each harvest. The rate of their wage is four punseris of grain per annum for washing the clothes of each married women. For washing the clothes of children and men they get nothing except a small quantity of grain at each harvest. The women do the same work, and the children look after the asses, which they generally keep to carry the dirty linen to wash.

15. *Lonya.*—The legitimate work of this caste was making salt and saltpetre, but since salt making has been prohibited they live upon common labour. They are very hard-working indeed. They generally work on public roads, and also do all sorts of earth works by piece work. The women are as hard-working as the men. They often travel with their families in search of labour, however their income is no more than from one-and-a-half to three annas per day. It is, of course, much greater than the wages of the above-mentioned labourers.

16. *Kewat.*—This caste, in their work and habits of life, is analogous to the people of numbers fifteen and seventeen. They are employed for making fences to fields, erecting mud walls, which they do by piecework, and some of them when, in rainy season, the small streams overflow, use a hollow trunk of a tree as a ferry boat to take passengers across, for which they get about one-quarter of a pound of grain, or half a pice from each person. The average income of this caste is no more than that of a common labourer.

17. *Guryas.*—These people belong to a branch of the Kahars cast, and do the same work, but besides carrying palanquin, doing household services, &c., they also in some places keep ferry boats like Kewats, and roast grain for chabena; for these two works they get a handful of grain or one farthing from each man.

NON-AGRICULTURISTS.—Under this second major head of the rural population twenty per cent. of the total comprise :—

1. The people who live on their incomes.
2. Those who live on the public charity.
3. Those who live by means of service.
4. Artisans.
5. Tradesmen of all classes.

To say anything about the people who do not work, viz., of No. 1, is hardly necessary, because those who live on their private incomes are so very few that they do not deserve notice. And although the people No. 2, who live on public charity, and all the wandering tribes, *Berya*, *Kanjar*, *&c.*, the common street beggars, and all classes of *Sadhu Sunts*, *&c.*, form a large proportion of the population of the country, they either, from having neither need nor means, nearly all keep themselves aloof from our schools, any description of their circumstances would only unnecessarily enlarge this Report, it has therefore been curtailed in this edition.

N.B.—According to the statement B., people Nos. 3, 4, and 5, are nearly all counted in the middle class, as they are supposed to be able to afford education :—

Of these, the men No. 3, who live by means of service, are almost three or four per cent. of the total population ; and except a very few, who, through lately having been elected to scholarships from our village schools, or by their own private means, have received some higher education, and thereby have obtained good employment in the Government offices, and a few more who hold high rank in the army, either of the Government or of Independent States. The majority of this class serve as menial servants, such as grooms, porters, peons, watchmen, cart drivers, &c., or as sepoys in the army. The average pay of all these employments is no more than, at most, Rs. 6 per month. The detail of these employments and of their respective pay is unnecessary. But, before concluding this report, I think that it would be rather interesting and not out of place if I add a brief account of the circumstances and the income of the people Nos. 4 and 5, viz.; the artisans and petty shop keepers, who are about eight or ten per cent. of the total population.

Though it hardly requires any further detail, since it is enough to understand that these people have no other business but to meet the requirements of their above-mentioned fellow countrymen. Yet, a very short description of their castes and pecuniary means, will make the matter more clear.

It also should be borne in mind (1) that though the chief occupation of the people Nos. 3, 4, and 5, is service, manufacture, and trade, when they have been classed as *non-agriculturists*, yet nearly half of them besides their own legitimate professions, also cultivate some land with the help of their families, or employed labourers to grow crops for their provisions. (2). Some of them are well to do, and great Mahajans, but the circumstances of most of them are no better than the petty Kashtkars (Asamis).

The daily wages of the artisans is very little, and vary in different places. In and near the large towns the rate is higher than in the country. The average rate of wages of a common workman in this district is 3d. and about half a pound of grain for Chabena* per day; but a good skilled artisan may get from 4d. to 6d. with or without Chabena. It should also be remembered that skilful workmen are very scarce in the country, as there is no want of them, and if there is one he is sure to work in some large town to make the best use of his skill, for which he will get 5d. or 6d. every day.

A Zimindar to the workman who lives in his village and also the workman's Mahajan, for a trifling on one or two days' job, will pay nothing but Chabena, and for regular work only half of the usual wages. But on some occasions, such as the birth of a son, &c. to the Zimindar they get some perquisites.

Though in comparison with the common labourers, whose wages are twopence a day at most, the wages of the artisan seem rather handsome yet the condition of most of them is no better than the others, because every individual of the former class earns his own bread, while in the case of the latter only the men work and support the whole family. The wives of most of them do not work at all, and the boys require strength and practice before they can begin to earn anything.

Of these artisans, from number one to six, are most common in the country :—

1. *Lohar (Blacksmith) or Barhai (Carpenter).*—In this district there are no Barhai; the Lohars do carpentry also. They remain working for the Kashtkars a whole year, for which they get a tithe at each harvest. For this they repair only ordinary household articles and agricultural implements, but for other work they get from three-pence to fivepence a day with Chabena, and sometimes food besides.

2. *Sonar (Goldsmith).*—There is no fixed daily wage of a Sonar, it depends on the sort of the metal and weight and pattern of the ornament they have to make. As an average, for making ornaments of about half an ounce of silver, they will take ¾d., and for the same quantity of gold from 3d. to 5d. As among all other artisans the goldsmiths get good wages, and have a good chance of cheating their poor customers too, as they often mix less valuable metals in the gold and silver ornaments, therefore they live in a better condition, and consequently their boys, to whom they want to give some education, come to our schools quite willingly.

3. *Darzi (Tailor).*—The people of this caste are both Hindoos and Musselmen. They would sew the clothes of the children of their Zimindars and other permanent customers for nothing, but in this case, at the time of the marriage of the children, would demand a liberal reward in return for the whole of their past labours. The rate of their daily wages is as before stated, with Chabena, and if they work at night they get food also.

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* Roasted grain for breakfast.

By piecework, for a short coat or a pair of trousers of common cotton cloth, they will take about 1½d., or at most 3d. and for sewing an angrakha (long coat), from 2d. to 5d., but for a coat of very fine or warm cloth, from 6d. to 1s. For doing the work of their Zimindars, and of the Kashtkars, they are paid by tithe at both harvests.

4. *Komhar (Potter).*—These men generally are miserably poor. They make earthern pots, jars, cooking utensils, and tiles. To their Zimindars and the Government servants who happen to come to their place, they are supposed to be bound to supply the pots, jars, &c., for nothing. But commonly they sell two or three jars for ¼d. The women and children join them in labour. The boys dig earth and bring home mud, and the women bring chips, &c., for the kiln.

5. *Behna, Dhunya, or Naddaf (Carder),* are all Musselmen in this country, and extremely poor. They prepare cotton for spinning and exchange the same for untwined thread spun by poor women at the rate of from 1¼ to 1¾ seer for every seer of thread. They generally exchange the thread with cotton at the proportion of 20 to 35, and the cotton dealers sell the thread to weavers, or exchange with the cloth pieces made by themselves. The wages for carding four pounds of cotton and stuffing a quilt with the same is from 1d. to 1½d., or grain equal to the weight of the cotton. The women and children have to assist in the work.

6. *Jolahas, Koris, and Joryas (Weavers).*—The Jolahas are Musselmen, and the Koris and Joryar belong to the Chamars family. The pecuniary circumstances of a great many of them is no better than the carders. As their work is divided into some branches, therefore the women and children remain very busily engaged at it. Those men who have no means to set up their own business and work at the house of other Jolahas get a wage from 2d. to 3d. per day.

7. *Manihar or Choorihar.*—These men make bracelets, which are worn by women of every caste. The bracelets are made with a mixture of sodium carbonate, which is got from Usar land, and sand. They are sold about 100 for 1½d. to 2d. Their income and circumstances are just like Jolahas.

8. *Patwa or Pathar (Lace-maker).*—The people of this caste are not very common in the country. Their work is braiding ornaments, but as the poor peasants have very little use for them, they are not in any better condition than the Jolahas or Manihar.

9. *Rangraze (Dyer).*—10. *Atashbaz (Firework maker).*—11. *Tarkchar.*—(*Tarki* an ornament made of palm leaf worn in the ear, especially by low-caste women). The people of these castes or profession are very scarce, and in their mode of life and income are no better than any of the foregoing castes.

12. *Thatera or Kasera (Braziers).*—These men cast brass vessels and ornaments and belong to the third Baran of the castes Vaisha. Like Sonars, their occupation pays them well; they send their boys to school.

It now only remains to give some description of the tradesmen (about 5 or 6 per cent). Most of them (the Hindoos) belong to the Vaisha class, and are commonly called Banyas. There are many subdivisions among the Banyas, and the men of each division are obliged by custom to keep to one kind of trade. They chiefly deal in the produce of their own country, especially grain, which they buy and sell only in the markets near their homes. They carry their merchandise to the markets either on their own backs or on ponies or bullocks which they generally keep for that purpose. To this class, however, belong all the people that are called Mahajans. Some of them, though not very many, are very rich, and lend money, but at very high interest; others, who are much more numerous, are grain lenders. Passing over these, as the money lenders are so few in number, and the grain lenders have already been referred to, I will proceed at once to the petty shopkeepers. An idea of the general life and circumstances of this class, taken as a whole, may be gathered from considering the condition of the simplest peasantry, who are their customers. Like them, with all the ordinary necessary of humble life. The most numerous of these are :—

1. *Banya or Backal (corn grower)* is a caste as well as a title for a shopkeeper. The first class of these are the Agarwalas and Saraogis, who always live in cities, and are generally bankers or great Mahajans.

2. *Khatris.*—Like the Agarwalas, these also live in cities and large towns, and do nearly the same business.

Among the middle class of Banyas are :—Agrahri, Kasarwani, Kasonndhan, Omar, Dhoosar, Bundwar, &c., who live mostly in towns and in many villages also. They deal in various commodities, such as grain, grocery, cloth, &c., and the richer ones among them lend grain, and money also. The above-named Banyas are very narrow and prejudiced in their views and ideas, they care only for money-making, and for this they willingly sacrifice ease, amusements, and repose ; they care nothing even about their dress or personal appearance, and though their business requires some education, they care only for the merest smatterings of it, which is commonly known as Kaithi, and for nothing more.

The poorer classes of Banyas who live in the country and are the most numerous are the following :—

1. *Kalwar.*—The proper profession of this caste used to be making spirituous liquors and selling them, but now they deal in other things, as wine has become a Government monolopy. Some of the Kalwars also are very rich, but most of them are poor. They buy grain, &c., from the agriculturists, and sell it to larger grain dealers in the nearest bazaars, and some of them still take a license to sell liquors.

2. *Bharbhoonja, Bhuj, or Bhujwa.*—These keep large ovens, called *Bhar*, for parching grain for Chabena* their wives and children sweep up the dead leaves that fall from the trees to burn in the Bhar. Out of

* *Chabena* is the unground grain parched in burning sand which alone is eaten by more than three-quarters of the villagers for breakfast.

the Chabena that is enough for one man's breakfast, they take, when it is ready, a handful of grain as their wages for parching it, but the rich Bhuj, like Kalwars, deal in various commodities.

3. *Teli (Oilman).*—The business of a Teli is pressing and selling oil. In their houses they keep a very rough kind of oil press. If they are rich enough to keep a small bullock they yoke it to the press, otherwise they work it by themselves. From any quantity of oilseed, oil to the amount of one-third of its weight can be produced, for which they will take an equal quantity of grain, besides the oilcake for wages. Like Kalwars, the Telis also deals in many other things, and some of them are well to do.

4. *Halwais (Confectioners.)*—These are both Hindoo and Musselmen and sell sweetmeats and tobacco. They make sugar out of gur for their own use

5. *Tamoli, Tamboli, or Barai.*—This caste sell lime or Pan (Betel leaves), which are chewed by all the natives of India, and are esteemed a great luxury. They also sell some kinds of vegetables, which they sow with their betel plants. In the country the price of two hundred Pan (a dholi) is $\frac{1}{4}$d. in the rainy season and a little more in winter, but in the summer from 1$\frac{1}{4}$d. to 2d.

6. *Koonjra, or Kabarya (Greengrocer).*—These are all Musselmen. They sell vegetables, which they generally buy from Morais. Their condition is worse than that of any other shopkeeper.

7. *Bakar, or Buz, Kasab, or Chikwa (Butchers dealing in mutton), and Kasai (dealers in beef).*—These men live in towns only. The success of their profession can be well understood by considering that they are in a country, the chief inhabitants of which are vegetarians. Like Koonjras, many of them lead their lives poorly. There is no prejudice against Bakarcasab's sons being admitted in the schools, but a Kasai's son would never be allowed by the public to sit and mix with the Hindoos.

This is the only caste in this country, the sons of whom are kept aloof from our schools. As these men are very few in villages, I do not think it necessary to give the detail of their business and income, and for the same reason leave the description of the following castes and sects :—1. *Sikh (a Hindoo Faquir.)*—2. *Bhatyura (Baker or Inn-keeper.)*—3. *Chetera (Carver.)*—4. *Attar (Druggist).*—5. *Gosain (a kind of Hindoo Faquir)* —6. *Pandas.*—7. *Nanbai (Baker).*

There is no end to the castes in India, but in this report I have given more or less description only of the castes which the statement A contains ; however, the account of the higher class has been excluded.

After perusing the foregoing remarks I hope there will remain no doubt that are very few persons in this country who have enough means to send their children to our village schools, and the schools that are established for the poorer classes never have a long existence. How then can the people who are so miserably pressed down by poverty, and whose whole day's hard labour provides nothing else for them but the

night's meal, ever be expected to send their children to school, who have also to help to earn for themselves.

In conclusion I must add that under the present circumstances three-quarters of the people are quite incapable of deriving benefit from our schools, and the country cannot improve so long as the whole community will not receive some sort of technical education, which would provide some means of livelihood for them, so that the people, besides depending merely upon their country's produce and service, may find some other opportunities for earning their livelihood; without this our exertions and attempts to make our schools popular and useful to the whole community have proved and will prove abortive.

I have the honour to be, Sir,

Your most obedient servant,

S. M. HOSSAIN,

Deputy Inspector of Schools,
Oudh.

Sagram Garh,
22nd March, 1875.